THE BUILDER
A JOURNAL FOR THE ARCHITECT & CONSTRUCTOR

VOL. CXLII. JANUARY 8, 1932. No. 4640.

Nettlestead Place, Wateringbury, Kent.

As Restored by Mr. P. Morley Horder.

(See pages 62-3.)

MEETINGS

FRIDAY, *January* 8.

Institution of Structural Engineers (*Midland Counties Branch*). Mr. H. E. Brooke-Bradley on "Bridge Foundations." At Derby. 7 p.m.

MONDAY, *January* 11.

Architectural Association. Mr. Graham B. Tubbs on "The A.A. Excursion to Austria, 1931." 8 p.m.

Chartered Surveyors' Institution. Mr. P. W. Lovell on "The Genius of Christopher Wren." 8 p.m.

Institution of Mechanical Engineers. Informal Meeting. 7 p.m.

MONDAY-FRIDAY, *January* 11-22.

Architectural Association. Exhibition of Photographs of Buildings visited on the A.A. Excursion to Austria, 1931. 10 a.m. to 10 p.m.

TUESDAY, *January* 12.

Institution of Heating and Ventilating Engineers (*Manchester District*). Discussion on "Heating Engineers' Specialities." At Manchester. 7 p.m.

College of Estate Management. Mr. W. T. Creswell, Barrister-at-Law, on "Agency." 5.30 p.m.

Institute of Landscape Architects. Miss Brenda Colvin on "Impressions of Landscape Architecture in America." At the Royal Horticultural Hall, S.W.1. 3.30 p.m.

WEDNESDAY, *January* 13.

Institution of Structural Engineers (*Lancashire and Cheshire Branch*). Mr. F. E. Drury on "Regulations affecting the Design of Pillars in Building Construction." At Manchester. 6.45 p.m.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher on "Belgian and Dutch Renaissance, 1500-1900." 6 p.m.

Manchester Society of Architects. Mr. Joseph Emberton on "Rational Architecture." 6.30 p.m.

THURSDAY, *January* 14.

Institution of Structural Engineers. Mr. H. J. Tapsell on "Creep Properties of Metals." 6.30 p.m.

FRIDAY, *January* 15.

London Society. Mr. Hugh de Bock Porter on "Some Account of my Stewardship." 5 p.m.

Hampshire and Isle of Wight Architectural Association. Lecture by Professor A. E. Richardson. At Winchester. 6.30 p.m.

Institution of Structural Engineers (*Western Counties Branch*). Mr. W. M. Elgood on "Factors Governing the Design of Steel Bridge Projects." At Bristol. 7.30 p.m.

SATURDAY, *January* 16.

Incorporated Association of Architects and Surveyors. Visit to the Tower of London.

MONDAY, *January* 18.

Chartered Surveyors' Institution. A Moot.

Royal Institute of British Architects. President's Address to Students and Presentation of Medals and Prizes. 9 p.m.

Designed and Drawn by the late W. R. Lethaby.

THE NEW YEAR

WE have arrived at yet another milestone in the crowded roadway of life, and the speed of modern existence seems to bring these distance marks ever closer and closer together. On this occasion the phenomenon is more marked than usual, for the year we have passed through has been more crowded with incident than most of those others since the War years.

In all industrial life this has been a year of depression in results and in spirits; and the building industry has been true to its character as an indicator of industrial conditions. The amount of site clearing, and the mass of scaffolding which marks London as an ever unfinished city may deceive the casual observer; but the fact remains that the bulk of the building done during the last twelve months has been much below normal, and that unemployment and slack trade have been typical of the times. It would be difficult to follow such a period with a cheerful view to the future, and to many who have passed through a really bad time and are even now not out of the wood, a note of optimism may sound hollow and insincere until more certain signs of improvement present themselves.

To add to the general depression which we have felt so long, the serious financial crisis which descended upon the country a few months ago and which still hangs over our heads like a cloud, has added yet another excuse for the inveterate pessimists. We would like to say at once that we do not share the gloomy anticipations of those who take pleasure in a long face. We are as alive as any to the peril which threatens the country and Empire, and we know that under incompetent leadership disaster could yet descend upon us; but we cannot regard the crisis itself as an added burden upon the country. We rather look upon it as an occasion upon which all classes have reviewed the position with honesty, refusing to continue in the fool's paradise which years of unconcern had built up. We cannot think that such a national stocktaking can be in itself disastrous; and we are, on the contrary, fully convinced that our hopes for the future are more justified now that we have admitted the worst, than when we were deceiving ourselves.

Having stated our views thus upon the general situation, we would only express our hope that those who have it in their power to influence markets, in however small a degree, will do nothing to increase the difficulties which face us, nor in any way take advantage of the conditions which may favour an immediate but temporary advantage over the rest of the community.

Turning to other events more immediately and particularly connected with the interests we represent, we may note the R.I.B.A. competition for new headquarters which is now in progress. We have to commend the thorough way in which the conditions have been framed and the representative character of the jury of assessors. To that comment we have only to add our hope that the competition may produce a scheme of fine architecture worthy of its unique purpose, and of the mass of talent available, and that a great building may eventually arise as a monument to early twentieth-century architecture.

The past year will also go down in history as the year in which the registration of architects became the law of the land. The subject has been so contentious and so thoroughly discussed from all angles that we do not propose to say more upon the subject, other than to tender our good wishes to the Institute and to express the hope that policy may be directed always towards the good of the profession and in the cause of fine architecture.

That the call for national economy has affected all classes connected with the building industry was to be expected, and the articles and data which we have published from time to time in reference to the matter have shown the effect of the abandonment of building work. We appreciate the necessity of wise economy, but it is difficult to discover what was to be expected from abandonment of work, but an increase of unemployment, and this we are getting in increasing measure. We know that the architectural profession and all classes of the industry are seriously affected by the economy policy of public bodies and private individuals. While we note with satisfaction the efforts of the profession to deal with the situation on behalf of its members, we hope that in the near future the facts will be reconsidered by all those who have it in their power to help, and that necessary public and private work will go on as before.

Looking ahead into the New Year which stretches before us in the mist of uncertainty we are convinced more than anything of one thing, viz., that unless we are organised to the best of our ability, and unless we put our whole energies into future reconstruction, no fateful turn of the economic tide will bring with it the full benefits available.

The building industry has to suffer its share of criticism on the score of inefficiency, and most of such criticism is quite unjustified and unintelligent, though it can no doubt be shown that in some respects there is room for improvement in the way in which building is carried out. We are convinced, for instance, that even yet the operatives have not returned to their pre-War output, if they have in skill. It may be that there is an inherent tendency which the individual is powerless to influence, but we believe that if it were thoroughly brought home to each man in the trade that he had it in his power to put forth still a little more effective energy in his daily exertion the sum total of the matter would be a valuable contribution to national reconstruction as well as to his own advantage. But in this matter the masters also must set an effective example in offering all in their power to the needs of the country.

We are not going to spare the architects either in our appeal to citizens to "pull their weight." They too, must appreciate that they are important driving members in the machine of building. Lack of industry and vigilance on their part may do much to throw the works out of gear, however well the other units may be working. We have had some complaint by a builder correspondent that architects, or at any rate those with whom he has come in contact, are prone to let their jobs drift once they have set them in motion. We have no doubt that there are plenty of architects among our readers who will be prepared to refute the charge with energy; and we have thought well to call on our running feature, "*The Builder* Debate," to form the ring in which this matter may be thrashed out with seconds out of the ring.

As for *The Builder* itself, we do not propose to change in any drastic manner the form in which we have presented ourselves weekly to our readers for so many years. Our circulation alone indicates that we retain their confidence, and if that were not sufficient, our friends confirm us in our policy. We stand, and shall continue to stand, for a fair and impartial review of all matters of interest. Our correspondence columns will continue, as always, open to all who have something of interest to say, whether or not their opinions are ours, and whether or not their spoken opinion may affect policy or politics. The journal which suppresses any section of opinion not only damages its own case but is doomed to early failure. The "Debate" will continue as before, and that very useful instrument for an exchange of ideas and knowledge, "The Inquiry Bureau," will remain open for the service of our readers.

Finally, we would wish our readers, singly and in the mass, all the good wishes which the season suggests. May they find themselves in a thriving industry, and may they find in *The Builder* all the interest, service and instruction which we aim to place at the disposal of our readers.

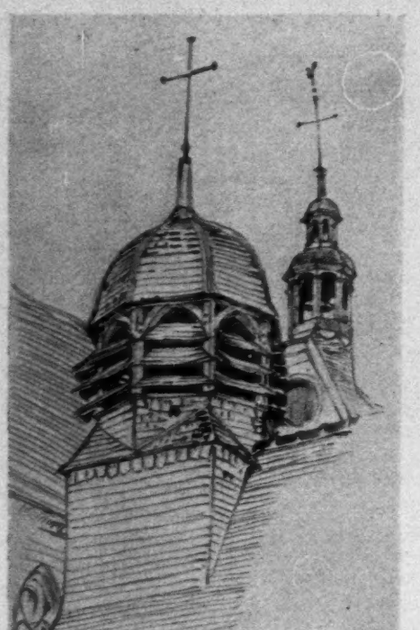
NOTES

1932.

How should we best approach this New Year, and with what outlook? Can we read the signs of the times and interpret their significance to us? They are of some peril. Almost any situation can be dealt with and overcome if really faced with courage and character. But we have a lesson to learn, for we have not as a nation been always wise. Do we realise this, and if so, how do we stand to-day? Life is no less endowed than formerly; we have all the resources, more even than humanity has ever before possessed. But, while in the physical universe so much has been discovered, in regard to life itself we have not kept equal pace with what we need to know. It is the chains we forge for ourselves that hurt us most. Our standards are too low spiritually, and we have to catch up with ourselves. The future of this nation depends much more on a new orientation of our lives than on questions of currency. For we are assuredly—though we may not choose to think so—less the plaything of circumstances, the victim to outside forces, than we are victims to ourselves. Our inter-dependence economically is being forcibly presented to us just now; if at the same time our human interdependence were equally acknowledged we should have far less to fear. And to start well the New Year we have to abandon the doubts that assail us, for the spirit of the age is only our own spirit, which with courage we can direct. We may venture this to-day when reality will best help us. There is much in our outlook that is moribund and moth-eaten. We have not always in the past shared our prosperity; let us share together what measure of adversity yet lies before us, and it may yet prove that 1932 will be memorable in that it led us to think and act more in accordance with what is best in ourselves.

The Time Issue.

We are all fairly conscious of the gravity of present circumstances, without being too alarmist about them, and in considering what is before us in the New Year, the time element is perhaps the most important. We should not wait on events lest undealt with they overwhelm us. It is pride that precipitates the decadence



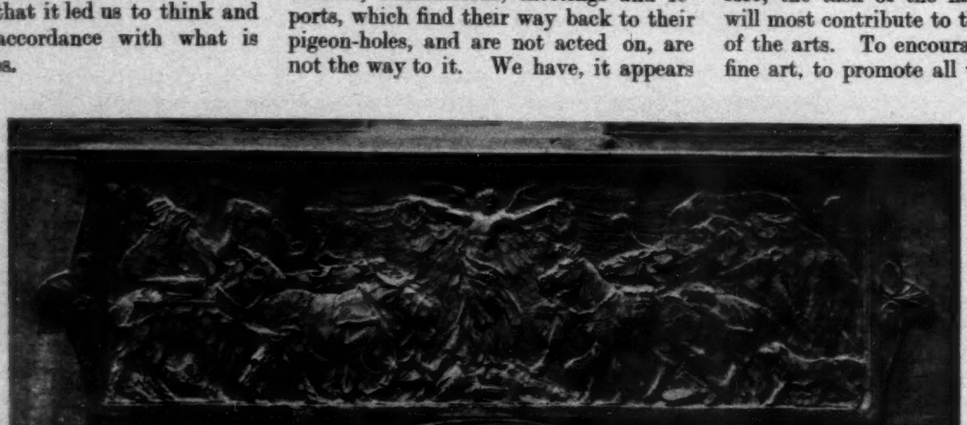
The Turrets, Church of La Riche, Tours.

From a pencil sketch by the late W. R. Lethaby.

of nations. We must face what is before us and pay the cost of it, so small in comparison with the consequences of letting things drift. It is not for us here to anticipate the decisions which the time requires, but more conferences, debates, commissions, meetings and reports, which find their way back to their pigeon-holes, and are not acted on, are not the way to it. We have, it appears to us, done enough of thinking and of doubting, and only decisive action will help us. If change is inevitable, do not let us fear it. It was Euripides who placed man's destiny in man himself. Let us come to decisions, and the fears in which we live—for our likes and dislikes have really nothing to do with the matter—will dissipate themselves, as doubts can only be resolved by action. It is not for us to say "how are we to know," but to face the responsibility that lies individually on each of us to master and control the difficulties which surround us.

Tradition and New Thought.

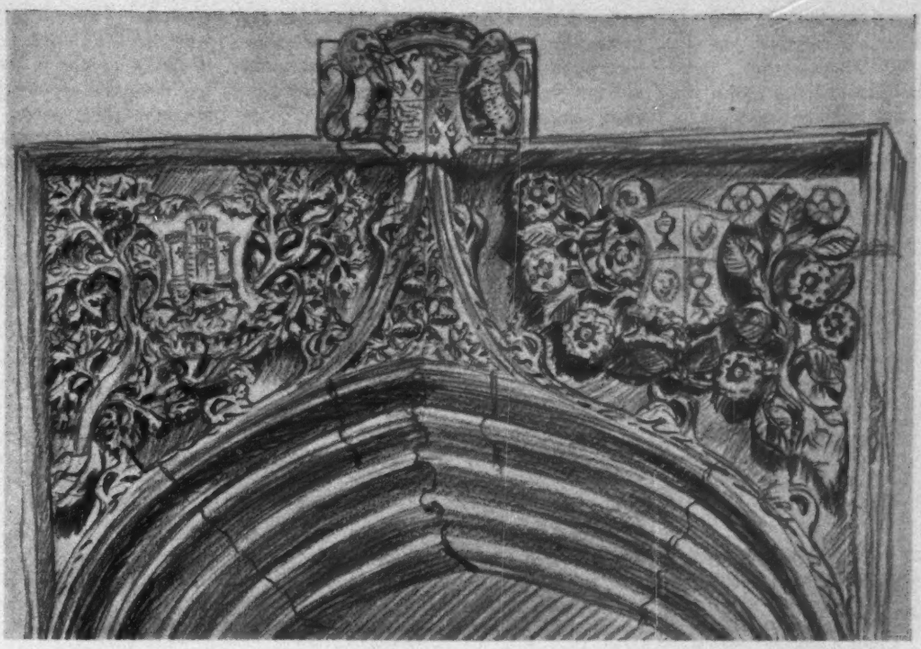
What do we owe to ourselves and what do we owe to the past? Around this wages a war of opinion; no less is it waged as between what we owe to craftsmanship and what we owe to the machine. The purist will regret the latter, the utilitarian the former. And what does architecture owe to either point of view, or does the truth lie between them? It is most of all a question of endowment, and terms may come to mean so little, otherwise the insipidities of modern cemetery monumental art may count as craftsmanship along with the Parthenon frieze. None the less, we have lost a unifying principle of art, no less than life, which we need to recover. However much our thoughts may stretch beyond mediæval conceptions, these did join earth to heaven—with a house of life within which to dwell between them. But this is not loss, if our horizons are being extended, and the foundations are being laid for a fairer dwelling. As science and archæology patiently open up the past, enlarge the present, and foretell the future, we see the growing interdependence of all life; that the welfare of one is the welfare of all. We cannot live to ourselves, but are like men in a ship; what hurts one, hurts all. To further that which unites is, therefore, the task of the nations, and what will most contribute to this is the welfare of the arts. To encourage fine building, fine art, to promote all that spiritualises



The R.S.P.C.A. War Memorial Competition: Winning Design.

Mr. F. Brook Hitch, A.R.B.S., Sculptor.

(*See page* 103.)



From a pencil sketch by the late W. R. LETHABY.

and ennobles life through the increase of beauty, is to rise above material and economic shibboleths, to embrace a large view, and it will harmonise both to see them in their right proportions. If we take our eyes off the ground it will present to us new glittering horizons where art and beauty expressed in fine building, fine art and the relationships growing out of them, harmonise life and add all those graces which are the flowering of nations. This is the new house of life that can once more join earth to heaven, stretch a ladder to the sky.

The R.I.B.A. Prize Designs.

THERE is evidently a widespread activity amongst our students, for this year there were no less than 61 entries for the Soane prize at the Institute. The design for the Soane (a national library) has brought forth several ambitious drawings, but a thoroughly well balanced design can hardly be found amongst them. The first placed design is so prodigal of vacant wall spaces that it practically amounts to a waste of material, and the mere piling up of huge masses of walling does not necessarily produce impressiveness. There is so much skill and detail and inventiveness in idea that one feels the winner of this competition would gain a higher quality in his work by an exercise of more restraint. In this way he will much surpass his present work, clever as it is. One rather shudders to think what it would be to study books in the vast, lofty spaces of these designs. The Tite prize seems to be always an attractive subject for students, and generally elicits some good work. There were 200 entries. There are a few of nearly equal merit, such as Tutite "Lento" "Peril," "Barlat," Spero, Elk, Legis, Felucatum, Rodilardus and Vinska. As a mere question of drawing the set by Barlat is especially good. The Owen Jones competition seldom reaches a very high level. "Luds," which come first, is clever if somewhat eccentric. But as essays in colour the competition is disappointing. It is curious that this competition is generally so unfruitful of results. The fine set of drawings of St. Paul's by "Resurgam," are an exceptional result for the Measured Drawings prize, and leave the other competitors hopelessly behind. It is a wonderful record of draughtsmanship. The set of drawings of Lyme represents some excellent work of a very interesting subject. There is some praiseworthy work in other subjects. The Alfred Bossom competition has evolved some clever designs, which in some instances suggest a telling disposition of mass. The conditions of these competitions, which call for a detailed consideration of cost and its probable remunerativeness should lead to some useful, practical results. The plan designs have been well thought out and show some really practical consideration of the subject. The Grissell Medal, has brought forth a fairly good design. The other bursary and essay competitions have drawn some good results. A good deal might be said in detailed comment on the various exhibits, but one feels that a little judicious counsel and direction would give the students a better chance. What is it that has inspired these huge and often gaunt erections for the Soane subject? Has the word National inspired the ponderosity?

The French Exhibition.

WE have now an unexampled opportunity to study French Art in the very fine exhibition in the Royal Academy Galleries. There may be less than one would have liked to see of certain artists, but, on the whole, it is a

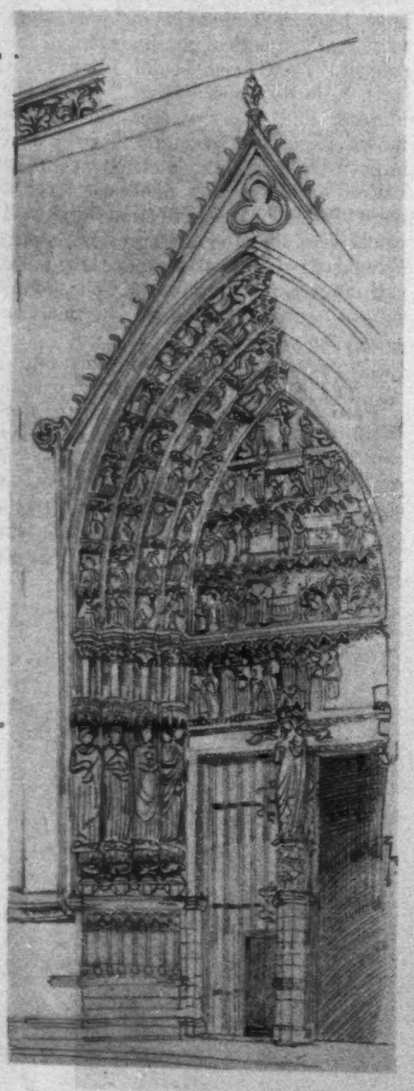
The Church, Brockhampton, near Ross, Herefordshire.

The late W. R. LETHABY, Architect.

fine representative work. It affords a curiously striking commentary on the paltry efforts of those who have posed with childish absurdities under the name of New Art. Many are eager enough to throw away the shackles of tradition, but it will take a good deal of effort and genius to satisfy in equal degree the splendid achievements of these beautiful creations from France. Long years passed after the wonders of Grecian art appeared before the world was enriched by the beauties of French art, and the grace of a Fragonard appeared as a new light on the long pathway of Art which led onward from Greece and Rome. Perhaps the crude expressions of modern Art, largely due to Continental influences, will in time give way to those better influences which carried Art through the centuries from the Parthenon to Fragonard.

The Peak District.

In the very important work of widening the efforts for the preservation of rural beauty, nothing has been done which makes so graphic appeal as the fully illustrated quarterly entitled the "Threat to the Peak." By getting together a large number of excellent photos of the beautiful country and old buildings which furnish it so delightfully, the editors have produced a quite charming album with a hundred and sixty illustrations. Here is a telling indictment of the carelessness and folly which have characterised the growth of our modern towns. "Sheffield was surrounded as no other city in England by hills of such beauty that, well planned and well built, its suburbs could have been a paradise. But the most beautiful suburbs of all, those on the west of the city, are desecrated by a mass of uncontrolled vulgarity. One is ashamed, as a citizen, to look on this despoliation." We are glad to see that several cases of building which deface the countryside are pilloried in these pages. There is no district in the country which is in greater need of protection both as to town planning and decent architectural treatment than the Peak district, and the pamphlet before us should bring this urgent need home to all who read it.



The South Transept Door, Amiens Cathedral.

From a pencil sketch by the late W. R. Lethaby.

Paris and her Stations.

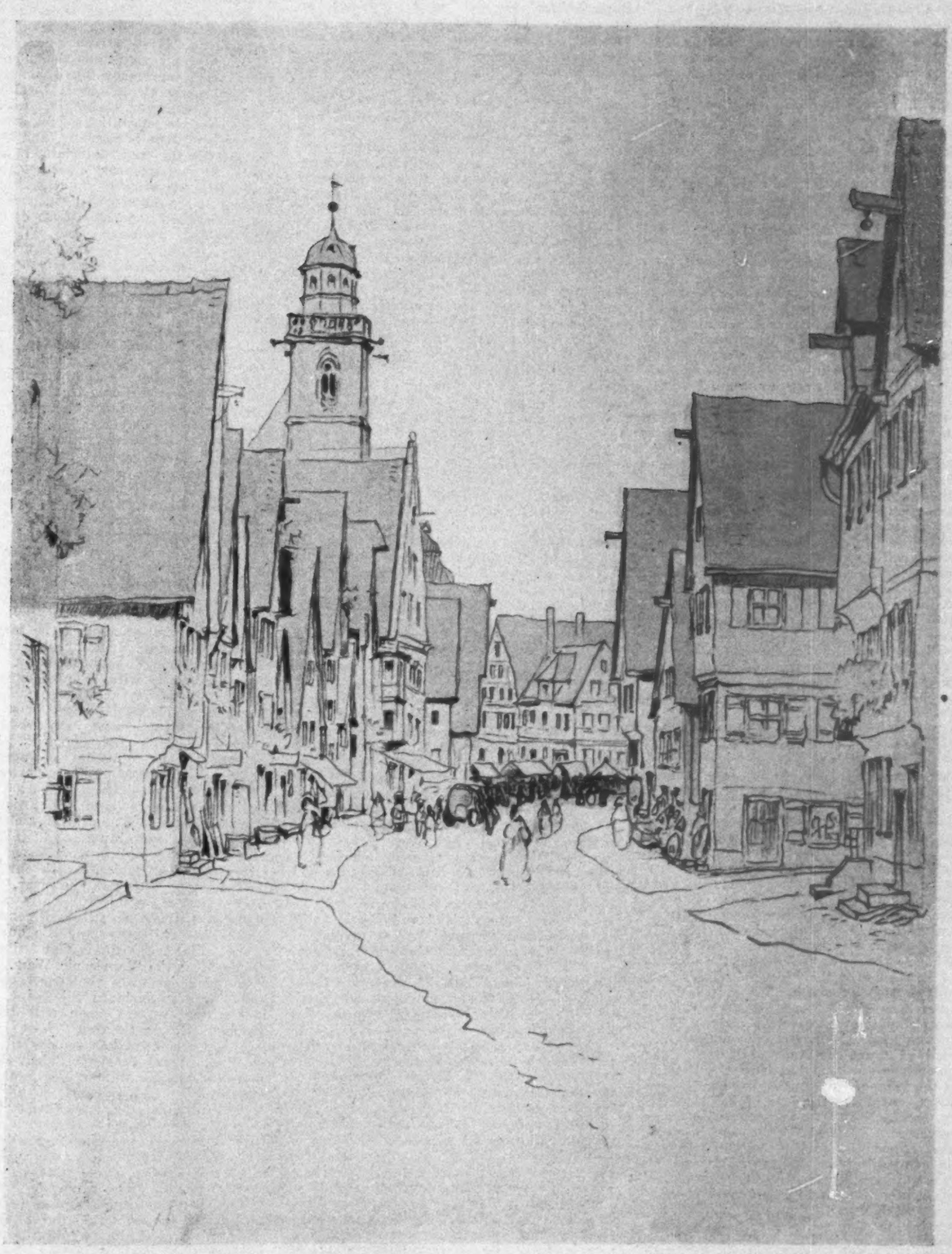
Paris, which in the Quai D'Orsay has already given the world what many still think the finest railway station, is hard at work modernising and extending others of her rail termini. A year ago an extensive scheme of alterations was completed at the Gare St. Lazare, which had the effect of improving it very considerably, and within the last few days a new extension to the Gare de l'Est has been finished. With the exception of the Underground Group and the Southern Railway, our English railways have a lesson to learn from this. Their efforts, not always very successfully, have been concentrated upon setting up and maintaining a fine service of trains: of the art of showmanship they have a great deal to learn. The grim exteriors and untidy interiors do little towards attracting the Londoner from other forms of transport. Yet London termini are still the main gateways to the city. Railway companies might do well to put into operation schemes of interior reconstruction which have as their principal objects simplification of planning and, above all, a note of cheerfulness.

The Teatro Communale of Bologna.

A great loss to architecture has occurred in the destruction by fire of the Teatro Communale at Bologna, which was almost completely burnt out on November 29 last. This theatre, says a correspondent: "used for opera during the winter season, was from the design of Antonio Bibbiena, and was indeed his most famous creation. The Bibbienas were from Bologna, a great family of architects of the theatre, who held the stage in Europe for fully a hundred years, roughly speaking from 1650–1750, and their work has been treated in *The Builder*; they commence with Ferdinando (1659–1739) and go down to Carlo (1728–1780), but one of the greatest of the gifted family is Antonio. His father had tried to make of him a priest, but the theatre was in his blood, and would not be denied; in the cities of central Europe he designed princely displays, theatre scenery, then came back to Italy, to build theatres at Siena, Pavia, Mantua, Livorno, and to transform the 'Pergola' which still exists at Florence. But his great creation was in his own city of Bologna, this very Teatro Communale. There was a terrible art conflict over it, for his enemies ran a rival against him; 'fury, calumnies'—says Ricci—'abuse in poetry and prose were unloosed, even epigrams in Latin, in dialect and Italian' . . . finally a 'referendum' sent to all the Bolognese who should have any well-founded and reasonable opposition to the model of the new theatre now on view.' Antonio came through in triumph, but the worry of it all was such that we are told he was 'in very real danger of going mad.' I have a copy of the original model before me, and it is very fine in proportion." The damage to the theatre caused by the recent fire has been reckoned at 6,000,000 Lire, which might be some £85,000.

Factories and their Planning.

"It is greatly to be regretted that in the various town planning schemes so many councils and committees assume as a matter of course that the erection of factories in residential districts will spoil the amenities. Factories are and can be designed and erected so that they are in no way detrimental to the district as a residential quarter, and it is earnestly hoped that if further powers are given under the Town Planning Acts, the Ministry will protect and foster the industries of the country and make it possible for industrial premises to be erected in the most suitable districts. It is a very great mistake that so much importance is attached to the concentration of factories in definite areas. Provided they are properly planned and designed, there is no reason why the ordinary industries, the greater majority of which are perfectly inoffensive, should not be located in the same areas as the residential quarters, for factories can be designed to harmonise with residential and rural surroundings provided scale and general atmosphere is maintained. There is again the advantage that long and tiring journeys are not forced on the employees, and provided attention is paid to the layout and open areas and care taken that unnecessary smoke from chimneys does not cause annoyance, I see no objection to such an arrangement." Thus writes Mr. A. Alban Scott in the current "Modern Factories" issue of *Architecture*. While it would be idle to pretend that there is any great movement at present in the direction of the establishment of new factories, it is possible that there may be considerable activity at a later date, and it is in readiness for this that the "Modern Factories" issue has been produced. Fourteen factories are illustrated, all of them being on the very latest principles of design.



Dinkelsbühl.

From a Sketch in Pencil and Wash by Mr. E. Guy Dawber, A.R.A., P.-P.R.I.B.A.

THE TREND OF AFFAIRS IN 1932

By A. E. RICHARDSON.

At the beginning of each New Year there is always speculation as to the turn building affairs will take in the coming months. A year ago, at a similar time, things looked none too promising. Depression has become widespread, and the events of the last six months have not restored confidence. In this country trade depression has, however, shown slight, if isolated, improvement. The National Government is pledged to consider the economic situation as it affects all branches of industry. There are signs that America is prepared to extend the period of the Hoover Moratorium, and that the cancellation of War debts between the nations is in sight.

The most encouraging sign of all is the stoic-like attitude of English people in times of acute financial difficulty. There has been a national awakening to the danger of over-inflation, not only in finance but in all business enterprise. There is a determination to inquire into the root causes of inefficiency and waste, a desire to adjust tariffs and to remedy the evils of over-production. The English character, which does not acknowledge defeat, is now, as in the past, a source of inspiration to the people of other countries. During the coming year there will be innumerable opportunities for all sections of the community to do something to help in the great task of regeneration. The organisation is ready; the rank and file await direction; it remains for the leaders of industry to formulate a healthy and vigorous policy.

Let us consider the issue from the standpoint of the building trades, almost the most important branch of British activity in the kingdom. This industry gives employment to thousands of professional men as well as to skilled craftsmen and manual workers, who collectively number hundreds of thousands. No one link in the chain can be neglected without affecting the strength of the chain as a whole.

It will be seen at once that the well-being of this industry depends entirely on the state of the national purse. If national economy is pursued too blindly, it is obvious that distress will become acute. There is the present example of America, where the building industry has suffered a severe blow from enforced inactivity. It will be said that this is something of an anomaly in a country of such vast resources, where there is at present no lack of food or money. Germany presents another example of over-inflation of values and the impossibility of maintaining a high standard of living at a time of financial uncertainty.

When we begin to understand the wastage that accompanies the kind of civilisation which depends so much upon international commerce, we shall learn to put our lesser domestic affairs into better order. There are some who look upon the present age as a period of transition to real progress and improvement. This has been the thought and the hope of every age. During the last century, such was the lure of industry that men became blind to the dangers of mass production. England set the lead in world trade. America and the Continent became keen competitors in the race. For a time this country could afford to buy a great percentage of its food in foreign markets, with the inevitable result that the one industry essential to its well-being, namely, agriculture, was gradually obliterated. It was thought, somewhat vainly, that agriculture did not matter and that getting rich did.

In the last century the building industry developed by leaps and bounds in direct ratio to the increase of the industrial population. Towns grew to disproportionate dimensions, fresh slums were created; thousands of factories were built, new docks were added to the great seaports, London, Liverpool, Glasgow, Southampton and Immingham. The railways netted the country. It was the time of prosperity on the grand scale. In the realms of art old styles were copied to give respectability to the most ordinary of structures. The engineers gradually dissociated themselves from the architects, and the town builders from the sturdy race of country builders who were masters of folk-lore in building technique. Like everything else, the building industry suffered from over-inflation. In spite of the Education Act of 1870, there sprang up a new kind of coarseness and unintelligence in architecture and building. It seems reasonable, therefore, to select for consideration those fundamental matters which, rightly handled, will do much to help architects, builders and the public. A continuance of the haphazard methods of the last fifty years seems unthinkable. There are some enthusiasts, moreover, who imagine that a change of style will help prosperity. We are instructed to make buildings "modern looking," and to substitute a new stylistic expression for the real essentials of building. The late Professor Lethaby examined all the potentialities of the immediate future in the magnificent series of writings with which from time to time he enlivened the pages of *The Builder*. Time has proved him to be right in his conjectures. The issue of the moment is not that of style but of principle. In any discussion of future events it is impossible to detach the ramifications of the building industry as a whole from national policy on the grand scale. But in our envisioning of the future the elements of fortune and chance can be eliminated off-hand. We must face the difficulties and be prepared to surmount them, even if it means the readjustment of a viewpoint which has become second nature.

There should be a sufficiency of exchange and barter between countries related by blood ties to maintain industry in England at a relatively fair standard. The main problem of the future will be to feed and employ the industrial population. Every student of political economy realises that the first principle of national wealth is power to cultivate the land and to produce food. This is not a new discovery: it is an old truth that was partly realised during the War. The signs, therefore, point to the revival of agriculture. In this there is hope for the country builders, and for those rural craftsmen who are engaged in the by-industries outside the towns. The electrification of the countryside will make possible many things which fifty years ago would not have been deemed practicable. Regional planning will be adopted and the sprawl of towns will be checked. As a result land will rise in value for agricultural purposes. The revival of agriculture as an important branch of national industry will call forth improved methods of building. There should be work for thousands of architects and surveyors who have specialised in plain building, fieldwork, and estate management.

The trades ancillary to agriculture that will profit by the revival are too numerous to mention. In the better adjustment of country and town values lies hope for a large proportion of those engaged in the building industry. The investigation of town conditions and the wiser direction of town planning will afford employment for those whose occupations are purely urban. There are, as is well known, thousands of acres of slum property to be cleared and new dwellings erected. During the next decade or so most of the railways will be electrified, new bridges, new stations and new tracks will be required. The Great Western Railway Company has already planned a vast scheme of reorganisation of plant and equipment. A plan for greater London is in preparation under Dr. Raymond Unwin, and this of necessity implies the building of many works to improve social amenities. Finally, there is the adjustment of the thoroughfares of London itself, particularly the high roads that traverse the old inner suburbs of the Metropolis, the remodelling of London parishes and the building of new churches and schools.

Present-day building methods and modern engineering can be relied upon to deal with all aspects of the many problems that will occur in 1932 and the years that follow. England is far from being in decline. She is now, as she has been from the time of Queen Elizabeth, in a state of healthy transition. It is agreed that under the stress of world conditions the old order of commercial supremacy must change, but it should be possible to adjust insular conditions to meet changes which are inevitable.

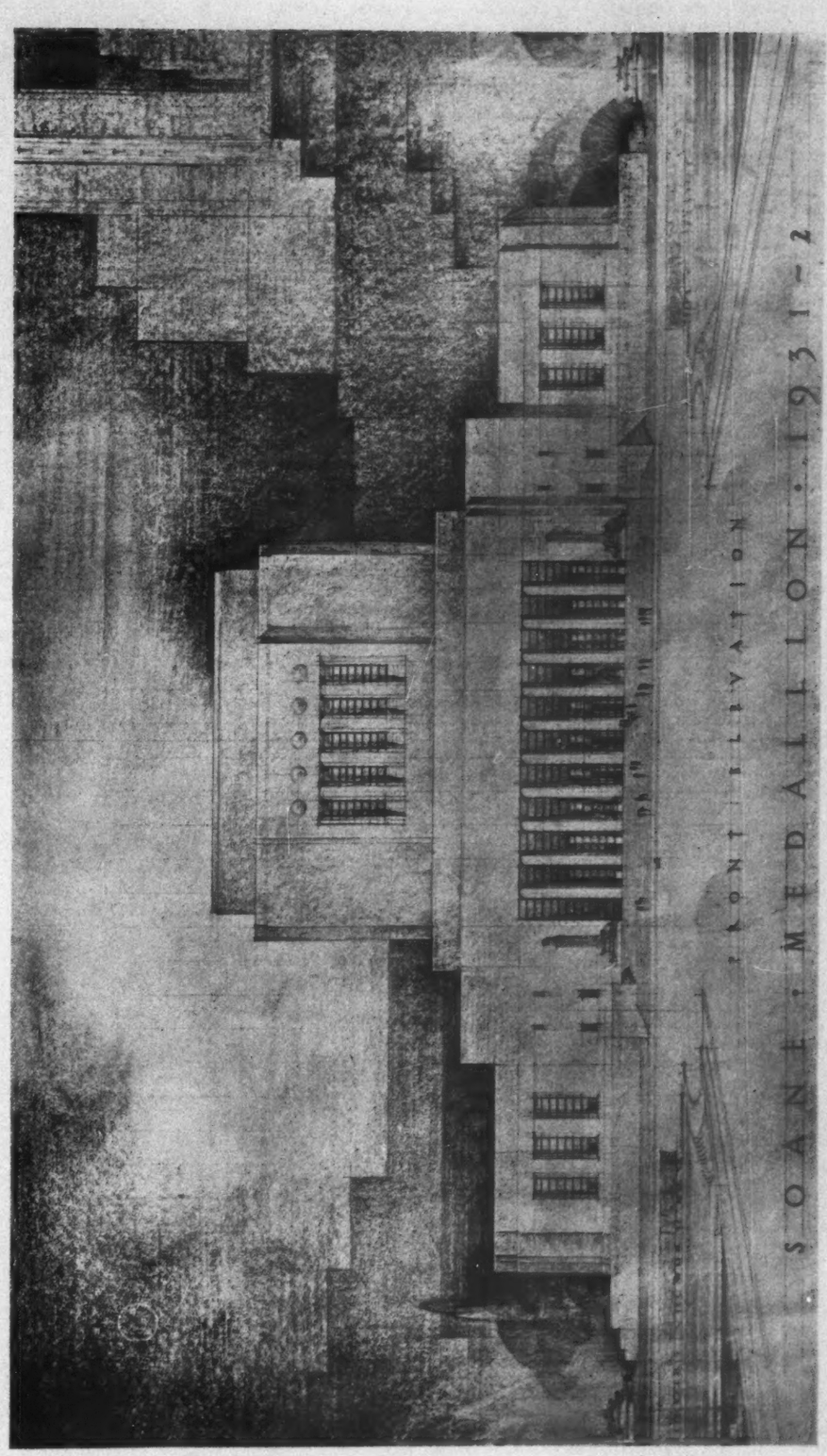
Most people share high hopes for 1932. Leadership alone is wanting, and this must be encouraged and determined by those elected to parliamentary office by the will of the whole community. The time has come when blind guidance with its wastage, its palliatives and soporifics must be replaced by a definite national policy. The present position is one of the strangest the world has yet experienced. There is no question of famine; there is no lack of gold in the banks in New York and Paris, only a species of financial inertia and panic. The commercial machinery of the world for the time being seems to have "seized up" for lack of lubrication. Small wonder that the building industry, in company with every other industry for which this country is justly famed, is suffering temporarily from general lack of confidence.

In France, where agriculture is a flourishing industry, the population is strengthened by the fact that it can command home foodstuffs. There is no frenzied appeal for stringent economy; there is very little spoliation in rural districts, and the national well being is healthy.

If there is to be any escape from the abyss in 1932 it is clear that our legislators must be prepared to encourage the preservation of the countryside, not by laws framed to preserve rural scenery, but by Acts of Parliament that encourage the farmer and the countryman. Such drastic reconstruction must bring about temporary difficulties, but these will be overcome. There will be scope for architects and builders in country places. There will be new food-distributing centres required, as well as new abattoirs and granaries. In addition, the whole question of agricultural buildings will have to be considered.

The year opens upon a period presaging activity of a kind which is new in every particular. The capitalist classes may shake their heads and say, "This is all very well." Socialists may say, "This is Utopian and at variance with our Marxian tendencies." Thinkers, however, are confident that a wonderful rally will take place, and with this rally will come a fresh spirit in architecture and the building industry akin to the spirit that animated our people after the Napoleonic Wars.

We may certainly hope for better times, and, what is more to the point, all who hold their country dear will lend their support to revivifying those domestic interests, which, rightly considered, are part of the national fabric. That the policy outlined in this article is a sound one is indicated by the writings of all students on political and social economy. No other avenue under present conditions seems to be available. There might be a temporary revival of town-building, more blocks of flats, more banks, offices, cinemas, and dog-racing tracks. There might be a few more town halls, institutes, and a host of factories. Protection would indubitably bring temporary relief, but would the result be so lasting as that of setting the national food garden in order? Even supposing that a recrudescence of world trade were to ensue in a year's time, and that the nations were to begin once again to purchase the unwanted rubbish of mass production, would western civilisation profit by this specious form of commerce? It is to be doubted. The more the question of the future of the building industry is studied, the clearer is the issue. It is a national and not an international matter, and the process of revival will be gradual.



The Soane Medallion, 1932: "A National Library in a Capital": Winning Design.
By Mr. R. H. Matthew, A.R.I.B.A. (School of Architecture, Edinburgh).

THE PLACE OF BUILDING IN NATURE

By A. EDGAR BERESFORD.

In recent years we are so thrilled by the triumphs of mechanical invention and scientific research, so proud of the conquest and utilisation of natural forces by human ingenuity, the ever-increasing power of "mind over matter," that we are in grave danger of regarding anything which is natural, anything which hitherto has escaped utilitarian exploitation, as uncouth and crude, as a raw material which needs to be reorganised and treated in the light of our newly-gained omniscience. To minds thus overawed by the marvellous works of man in the modern world, the beauty of rural England is merely so much "undeveloped land," dumbly awaiting the all-conquering advance of the engineer and town planner. There is a certain school of thought amongst architects to-day which demands that any building should be designed as an independent unit, a paragon of materialistic convenience and fitness for utilitarian purposes, borrowing nothing of its inspiration from its surroundings, regarding its site merely as a foundation and never as a background. If the surroundings are inharmonious, so much the worse for them; they must be brought into line as necessary! This attitude of mind is no doubt inspired by the dominant idea that the works of man are pre-eminently important and self-sufficient, and that, just as in other fields man has bent the natural forces to his will, so may the modern architect with equal fitness and success throw the ingredients of rural beauty into his melting-pot and recast them into some new form to harmonise with the latest fashion.

Now this theory is entirely at variance with every tradition and sentiment in the past, and although no doubt for some this is a sufficient reason for its acceptance—since many will always delight in novelty and freakish innovation for its own sake—we cannot flout the principles and ignore the successes of our forefathers. For the place of building in nature has always in the past been accessory, complementary. In its earliest ages it grew up out of the earth, a natural and harmonious development of its site and background, its forms as well as its colours inspired and suggested by the structure and colouring of its surroundings; and surely we may still accept as a root principle in building, even to-day, that we should work with nature and not against it, that man, even in the fullest glory of his powers, must still be content to serve and adorn the unmatched beauty of nature rather than arrogantly to claim the right to disregard it as of negligible importance.

If we recall to mind the most beautiful and harmonious rural scenes we have beheld, we shall generally find that they comprise some old building or other; it may be as a dominant note in the picture, as, for instance, the abbey at Tintern, or some castle of the Marches, or it may be as a mere accessory punctuation, such as a fisherman's cottage on the Cornish cliffs or a simple farmhouse on the Sussex downs. But whether greater or less in importance, the presence of an old building of some kind or other frequently seems to complete and enhance the natural beauty of the scene. It is our shame that new building on the contrary more often desecrates than decorates the landscape. What a tragic commentary it is upon the vast majority of modern building that we are constantly appealed to, in the public Press, to subscribe for the purchase of some beautiful area in order, forsooth, to "save it from the builder"! If we still possessed the faculty which seemed to guide and inspire the old builders with such unerring certainty to improve the landscape by their buildings, there would be little need for the formation of societies to preserve and protect the countryside, and unbuilt rural areas would no longer be referred to as "unspoilt." Our avowed ideal as architects is to decorate the country; an ideal which is by no means beyond achievement even in these materialistic days if we begin with a proper appreciation of natural beauty, of its unique and irreplaceable value in the world, and are, whilst fully realising the difficulty of our task, equally determined to discover and adopt the best ways of building in the fullest possible harmony and sympathy with it. For that, surely, is the right beginning and ending.

Architecture differs from all other arts in that it is inevitably wedded to the earth. Pictures and sculptures may be an end in themselves, complete and self-sufficient; they need not be considered in relation to any one spot or any one group of surroundings or accessories. But it is a hopeless fallacy to think of any building as a similarly self-contained and solitary unit; it cannot stand by itself, ignoring its neighbours and flouting its background, unless it forfeits all claim to decorate and adorn the ground on which it stands.

Frequently the principal charm of an old building is the idea it conveys, by its close harmony with its surroundings, that it has always been there; it seems so to belong to its setting that one feels that it grew up with the background in some distant past. Its colouring, again, even after we have discounted the added values of years of weathering and mellowing by wind and rain, seems to carry on in but slightly deeper shades the tones of its natural setting. We remember, for example, the bastions of some old castle springing from the brow of a hill, which at first glance appear to be hewn from a natural rocky outcrop—or, perhaps, a timbered cottage in a Kentish wood which so blends into its background that it almost appears as if the living trees have been woven together and the spaces filled in to form a wall. This close adaptation to natural forms and structure, so frequently met with in old buildings, seems to continue by such easy stages the transition from nature's to man's handiwork that the harmony between the two is perfect. There is no shock of violent contrast, no antagonism of form or colouring. How seldom does a modern building in the country exhibit this eminently desirable harmony! Yet it is not at all impossible to secure even to-day if we can be brought to realise that it is of importance to take a little trouble in considering our background before we first begin to formulate our design; to take our cue first and foremost from the site which we hope to adorn, and to let its natural characteristics inspire the style and fashion of our building.

It is no bad thing to make our first sketch designs actually on the site, free from the tyranny of the drawing-board and tee-square, those deadly enemies of all natural feeling in building. And such a rule should, if conscientiously followed, lead to much greater versatility and individuality in design. Working, as most of us do, in offices in city or town far from the infinitely varied influences of natural scenery, we too often find ourselves evolving the "perfect plan," adaptable to any and every situation, and ideal for none. It may be the essence of economy, the acme of utilitarian convenience, and, on paper, a combination of all the virtues. But uninspired by any natural or characteristic background, it cannot express that individual relation which alone can make it fit in with its setting. The only site in which it can hope to look at all satisfactory is some neutral characterless plot in a half-built suburb which, of course, has long forfeited any claim to natural rural beauty.

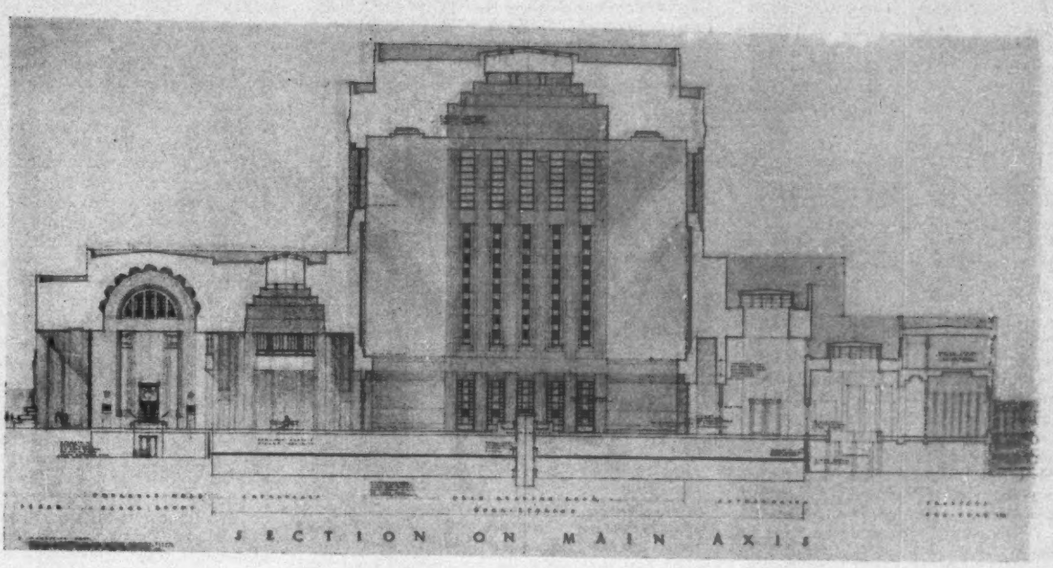
To the real student and lover of natural scenery the eternal battle of the styles, with which we vex ourselves and each other, loses all its significance, for each site, when carefully considered, will itself invariably suggest the style if we will open our minds willingly to receive the message. It is obvious to the least receptive that a level, park-like site calls just as surely for a building of orderly symmetrical character with long horizontal lines as does a steep irregular one demand a more romantic and vertical treatment. And the utilisation of material native to the district still further carries on the essential unity with nature which alone can ensure satisfactory and happy results. For if we really love the countryside we shall avoid any startling and abrupt intrusion of alien colour. The advocates of modernistic design (as, for want of a better name, we still must call the recent novelties in "twentieth-century" building) would have infinitely better chances of justifying and popularising their theories if they would abandon the "shock tactics" which seem to be inseparable from their work in the external unrelieved glaring whiteness of cement. One can imagine some of the buildings in this new manner looking almost tolerable if only the colour of the exterior were toned down to harmonise with its background, instead of, as so often occurs, standing out in garish contrast with everything around. For, except in a few special cases, such as lighthouses or monuments, rural buildings need not and should not assert themselves as upstart adventurers in a peaceful and harmonious world.

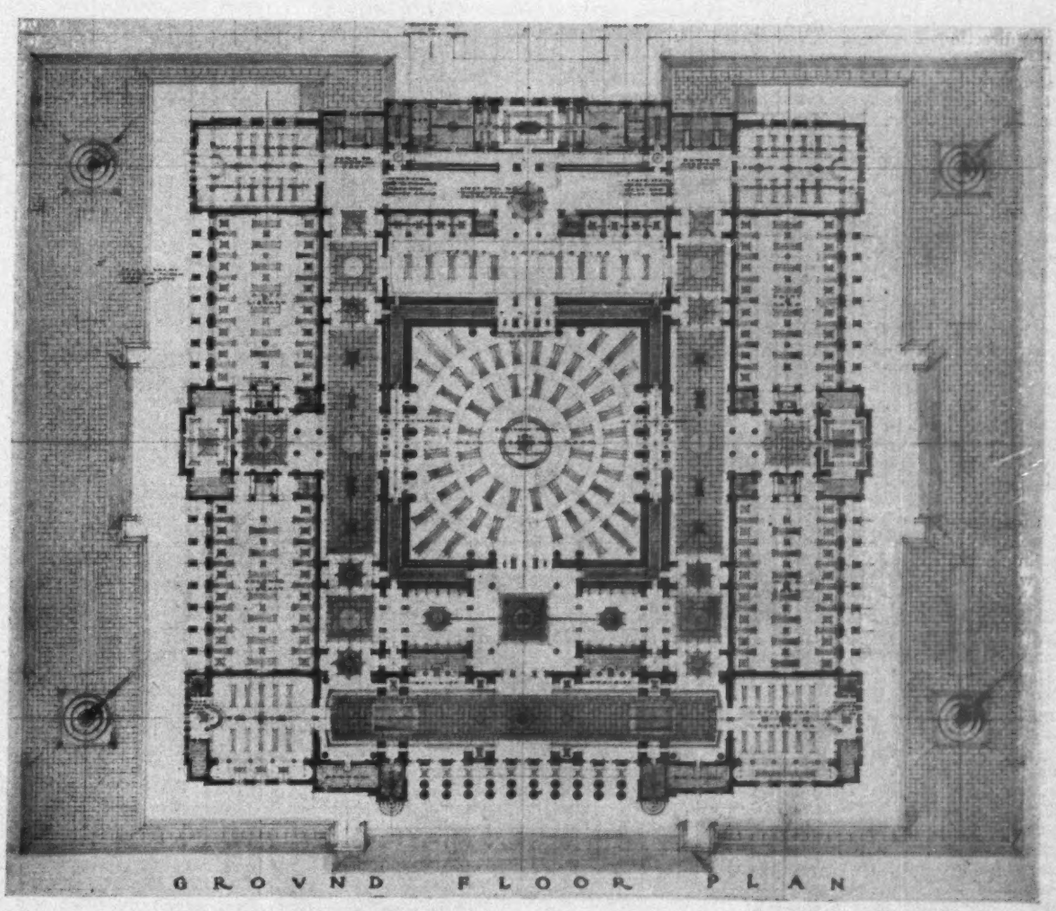
The nearer we can get to nature in our buildings the greater the variety and individuality they will have, and surely in a day of standardisation this is an ideal well worth strenuous efforts to reach. For the widely contrasting natural characteristics of the various countries of the world have in all ages inspired and demanded the development of distinct styles in building, varying just as greatly from those of their neighbours. Even in our own little land, what contrasts are to be found in local traditions and styles, caused by differences in climate, weather, altitude, as well as by varieties of local available materials! We think, for instance, of the silvery grey Cotswold houses, the mellow russets of a Sussex village, the "magpie" cottages of Cheshire, the sturdy squatness of a Yorkshire farm, the soft curves of Devonshire cob and thatch: all directly inspired by natural demands and conditions. These things all stand for nationality in building, an attribute which is in some danger of being lost to-day when modern developments in design seem to tend towards the abolition of all sentiment and tradition and the standardisation of all building to one utilitarian and cosmopolitan ideal. We are to-day on all hands urged to "Buy British." We architects might well carry the process a little further and resolve to "Design British" and to perpetuate and develop essentially national styles; and this we can best do if we work hand in hand with our setting, the unrivalled countryside of Britain.

"God has lent us the earth," wrote Ruskin, "for our life: it is a great entail. It belongs as much to those who are to come after us . . . as to us, and we have no right by anything that we do or neglect, to deprive them of benefits which it was in our power to bequeath." It is our duty not only to preserve and maintain the natural beauties of this lovely land we have inherited, not only to refrain from defacing it by inharmonious building, but to rediscover, if it be possible, that lost magic which our forefathers so surely possessed which enabled them in such unerring fashion to decorate and adorn the landscape. As Mr. W. G. Newton, in his "Prelude to Architecture" wrote, it is our obligation to "keep the land at least as lovely as we have found it." With that ideal always before us, we can have little doubt of the proper place of building in the world of nature.

Illustrations, etc.

Notes on illustrations published in this issue will be found on pages 104 to 106; General News on page 101; and Correspondence on page 101. Our report of the meeting of the Royal Institute of British Architects on Monday is given on page 102.





The Soane Medallion, 1932: "A National Library in a Capital": Winning Design.

By Mr. R. H. Matthew, A.R.I.B.A. (School of Architecture, Edinburgh).

THE WIT AND WISDOM OF LETHABY

[For many years past the special New Year Double Number of *The Builder* has contained an article by the late Prof. Lethaby, which has been followed month by month for the remainder of the year by a succeeding article on the subject chosen. In consequence of his lamented death last year we cannot include such an article in this issue, but in view of the Lethaby night—which has been arranged by the Royal Institute of British Architects for February 15—when Sir Reginald Blomfield will read a paper on "The Work of W. R. Lethaby," we have decided to publish in this issue some of the wise and witty sayings of Lethaby, on architecture and cognate matters, compiled by Mr. William Davidson, F.R.I.B.A., of Edinburgh. Many of the quotations are from Lethaby's numerous articles which have appeared in our pages, and the remainder are from the following books:—"Architecture," "Mediæval Art," and "Form in Civilisation." Mr. William Davidson, who has made the following selection, has to acknowledge the courtesy of Messrs. Thornton Butterworth, publishers of "Architecture"; Messrs. Gerald Duckworth and Co., publishers of "Mediæval Art," and the Clarendon Press, Oxford, publishers of "Form in Civilisation," in allowing him to reprint these "Jottings from Lethaby."]

"If ever we have a time of architecture again, it must be founded on a love for the city, a worship of home and nation."

"A period of architecture is a time of a flowing tide."

"The fairest horizon might be reached if we could go in one direction long enough."

"To forget the past would be as foolish as to ignore the present."

"No art that is one man deep is worth much; it should be a thousand men deep."

"The enemy is not science, but vulgarity, a pretence to beauty at second hand."

"Beauty is the complexion of health; to reach it we must put aside our preoccupation about different sorts of rouge."

"The Renaissance was self-conscious, but moderns are conscious that they are self-conscious."

"No writer on economics has yet told us what are the limits to expenditure in public arts, whether a beautiful city is an investment, or an extravagance. The modern political economy of quantity should be corrected by a political economy of quality."

"The history of art is full of instances of return to underlying principles."

"We should not bother about oldness or newness, only about sanity and soundness."

"We badly need some common units."

"We are helpless as individuals without the tide of custom."

"I would welcome cast iron even, if it expressed some human thought."

"The men who wrought them may not have read much, they may not in some cases have been able to write, but they held a secret we have lost."

"In all, and behind all forms, Gothic art is a spirit, the expression of 'an energy of soul,' and the art refuses to be driven as a whole under the yoke of a single formula. Attempts are frequently being made to measure it by 'definition,' and the art is relentlessly cut down where it does not fit this foot-rule, but such attempts are a mere logical pitfall."

"Every mediæval town at a distance showed a fretwork of towers and spires. The fairy architecture, the glory of the stained glass, the might of the bells, the sweet incense, the organ music and the splendour of the altar and vestments, all contributed to the most marvellous of all dramas—mediæval worship."

"Proportion, then, means either the result of building according to dimensions having definite relations one to another, or it means functional fitness."

"Before passing to consider what might be done—if anything can be done before the hour strikes—it is desirable to examine shortly two æsthetic superstitions about beauty in architecture which stand in the way of attaining it. One is the vague idea of an abstract and absolute proportion, whereas true proportion is always changing in answer to changing conditions. Proportion, properly, is the resultant of fitness. The Greeks, as their temple architecture slowly developed, came to think that a special virtue attached itself to dimensional simplicity, that, if every part were related to every other part by a simple scheme of fractions, a unity would result, and that the temple in reaching this unity would become a perfect thing. But all such ideas necessarily break down where building becomes more complex and is conditioned by other needs than that of attaining a sort of sacred perfection. Proportion of this sort was in truth rather a satisfaction to the mind than the eye. Dante found pleasure in building his poem according to similar rules. Even to-day something of the same feeling persists. We know that a room is a foot or two out of the square, the irregularity can hardly be seen, and if it is a few inches only no one will ever notice it, but, still, we do not like it so."

"The other superstition is that an external form of beauty may be reached and demonstrated other than as the sum of many obviously desirable qualities, such as durability, spaciousness, order, masterly construction, and a score of other factors needful to a fine school of building. There is no beauty beyond these except in the expression of mind and of the temperament of the soul. Probably the less that is said about these the better. The temper of the national soul is likely to operate best in silence."

"Experience seems to show that much æsthetic intention is destructive. No art can long outlast it, for art should deal with higher and deeper things, realities which will force their own expression."

"Little in ancient architecture was 'designed.'"

"Only that which is in the line of development can persist."

"Nothing looks well that has been done for 'look.'"

"Why should we wish for a sham Jacobean house more than a motor-car in the style of a sedan chair?"

"In the days when cathedrals were built, people were as concerned about them as we are about cricket."

"The arts can only flourish when there is a common interest in them, and constant criticism by all—that is, by all people except critics."

"The Greeks first freed the spirit of beauty from the hieratic; architecture was purged of terror; they aimed at what was gracious and lovely."

"The great architectural question of to-day is how to build common damp-proof walls; simple solid floors; and, above all, roofs better than the thin slate lids we are accustomed to. We need neither Greek nor Gothic, but an efficient method, and all our preoccupations about styles block the way not only to high utility but to high expression."

"The architecture, as ever, mirrors the soul of the nation."

"The important question in the arts is, 'Are they developing or degrading? If they are expanding, hints from the most diverse sources will be gathered and recast according to the genius of the time."

"The study of both Saxon and Norman periods of Romanesque art in England has been neglected. If we had a comprehensive and fully illustrated account of our early art, it would seem that it is for us of extraordinary interest and had much of great beauty."

"The architecture of the right moment answers in the most extraordinary way to our general ideas regarding the time; it is a crystallisation of the age of romance."

"It is impossible to explain in words the content of perfect Gothic art. It is frank, clear, gay; it is passionate, mystical and tender; it is energetic, clear, sharp, strong and healthy. It would be a mistake to try to define it in terms of form alone; it embodies a spirit, an aspiration, an age. The ideals of the time of energy and order pro-

From a Pencil Sketch by the late W. R. LETHABY.

duced a manner of building of high intensity, all waste tissue was thrown off, and the stonework was gathered up into energetic functional members."

"A plan is the foundation and key of the whole construction. The enjoyment of a plan is an aptitude which will hardly come without considerable comparative study, but the expert finds in it the theme and plot of a whole drama of building."

"Nothing great or true in building seems to have been invented in the sense of wilfully designed. Beauty seems to be to art as happiness to conduct—it should come by the way; it will not yield itself to direct attacks."

"Architecture is the matrix of civilisation."

"A living architecture is always being hurled forward from change to change."

"Good architecture is masterly construction with adequate workmanship; the highest architecture is likely to have fit sculpture and painting integrally bound up with it."

"If architecture was born of need it soon showed some magic quality, and all true building touches depths of feeling and opens the gates of wonder."

"Such accidental development leading to such ordered end has ever been the law of architectural growth; nothing of true worth has ever been invented of *malice prepense*. Evolution was along the line of increasing bulk and the effort after durability; these produced the pyramid."

"The arts of civilisation were never developed in water-tight compartments, as is shown by the uniformity of custom all over the modern world."

"It has been well said that no art can be classic which has not been barbaric. The movement of every school of art seems to be through a regular curve."

"An attempt to 'design" in architecture outside need and beyond custom is like inventing a strange alphabet which does not correspond to words and meanings. It is quite easy and quite futile. Forms are nothing in themselves, they are only envelopes of the spirit of architecture. The principal gifts of the Greek builders to architecture are in the main those of the ideal and spirit."

"The more real such a thing is, the closer to need and nature, the more romantic it will be also."

"Art consists precisely in introducing into our works a kind of continuous happiness." (Quoted by Lethaby from Albalat.)

"It is the spirit, directness, simplicity, peace, and above all custom, we want to find again."

"There is a spirit of life in direct human labour which none of our book students and 'office designers' will ever understand; it came by doing."

"One of the greatest lessons is, I think, the vitality and energy which comes from confidence, free workmanship. The mediæval master who knew his job could not be bothered to make two things alike."

"It might be well to inquire if any of us have ever yet seen a Gothic building. As a spectacle, yes; but, as the builders understood it, no."

"As general characteristics, we may say that Gothic architecture was developed by free and energetic experiment; it was organic, daring, reasonable, and gay. The measure of life is the measure of Gothic."

"I am forced to say that the window of dyed glass is the most perfect art-form known."

"Organic Gothic, let me repeat, must last for ever as a theory of building; phenomenal Gothic, as it in fact existed in the past, was possible only to the moments which produced it."

"Comparison of French and English Gothic art shows that ours was but a provincial variety of the great ogival style, a patois, as Viollet le Duc says of the art of Normandy. English Gothic is not the most typical, and it is a derivative of French art. But, for all that, it is exquisitely beautiful—something more wilding, less self-conscious, and, it may be, even more tender and pathetic. It is so at least to English eyes, for they must bring to the interpretation of this art some similar faculties to those possessed by the men who built the monuments of our land."

"After the building of Westminster, direct imitation of French work is not evident. In my necessary use of terms of comparison, I am far from speaking slightingly of English work. I only speak of less or more as of the magnitude of stars or the mass of mountains. Both schools of the one art are natural and fitting, perfect of their kind. I would, if I could, make use of a comparison of superiority which would not involve inferiority. Moreover, Gothic art in England was a true development continuously influenced from French, but not artificially imported."

"Thus it is that a cathedral was not designed, but discovered, or 'revealed.' Indeed, building has been found out—like speech, writing, and the use of metals—hence a noble architecture is not a thing of will, of design, or scholarship. A true architecture is the discovery of the nature of things in building, a continuous development along some line of direction imposed by needs, desires, and traditions."

(Speaking of Byzantine mosaics.)

"In a traditional art, as this was, each product has a substance and content to which the greatest individual artists cannot hope to attain. It is the result of organic processes of thought and work. A great artist might make a little advance, a poor artist might stand a little behind, but the work, as a whole, was customary, and was shaped and perfected by a life-experience whose span was centuries. No more fit illuminations for pages of masonry can be conceived than these mosaic figures; in their simple serenity they seem a cloud of witnesses, angels and saints, upon a golden sky."

"It is a mistake to attempt to define Gothic art by a mere architectural formula. The word Gothic applies to much more than architecture, and Gothic architecture answered to a spirit, an atmosphere, a moment, and an environment. It is the building style which responded to the mediæval civilisation in Western Europe, the centre of which was the Ile de France. But this, of course, was not a centre without a circumference."

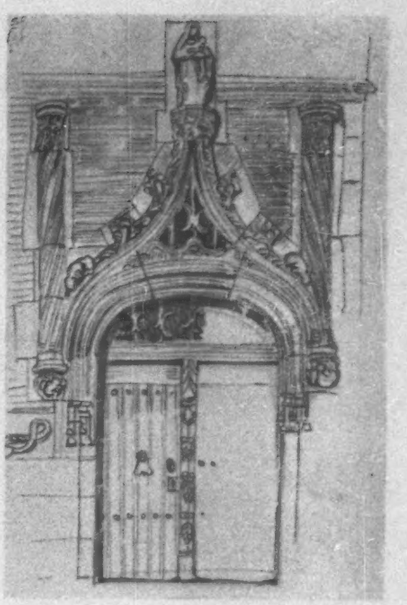
"As another consequence of its remoteness from the people, Renaissance art came to be thought of as a matter of pride and pretty shapes, of taste and appearance. It is not generally seen that great art, like great science, is the discovery of necessity; although Leonardo da Vinci—and in a less degree Wren—did reach this concept of the meaning of art. To discover this is to reach to the universal in architecture and to a point of view which looks on all styles as accidents of an environment and a moment. All vital schools, however, knew this instinctively, as knowing no other. They did not theorise; they built."

"It must, I think, be admitted by those who have in part understood the great primary styles, Greek or Gothic, that the Renaissance is a style of boredom. However beautiful single works may be, it tends to be blind, puffy, and big-wiggy."

"A true work of art always has something of this surprising freshness; but the Renaissance as a whole lacked the spirit of life. Gothic art witnesses to a nation in training, hunters, craftsmen, athletes; the Renaissance is the art of scholars, courtiers, and connoisseurship of middlemen."

"I turn away from this short study with a sense of the necessary incompleteness of all history as a mere record of happenings. I am more content, however, to have tried to suggest the unity in diversity of the stream of art which flowed down the centuries, every age showing a different manifestation of one energy as the old tradition was ever new shaped by the need and experiment of the moment.

"If I may venture to draw out a lesson from the retrospect, it is that we, too, forgetting the past must press forward; for in the future are hid the possibilities of many mighty schools of art as true and strong as the greatest of those that are gone."



From a sketch by W. R. Lethaby.

"Germany has long consciously cultivated this field for spirit production, and I remember an official tract on the psychological value of Ancient Monuments in promoting national consciousness."

"Great art of all kinds is produced only by common effort over a long period."

"Nothing living can pass through the torture of anxious committees. In a work of art courage is needed and an untired mind in the worker. For every fine work is the embodied enthusiasm of maker-poets—we cannot take fire from the cold ashes of committee compromises or the reflected flames of stylists."

"Any strong and general interest in building felt by a people will produce a living school of art. There is no perfect school, there is an infinitude of conceivable perfections."

"True originality is to be found by those who, standing on the limits of the sphere of the known, reach out naturally to some apprehension and understanding of what is beyond; it is the next step in an orderly development."

"At present individual architects are at the mercy of vulgar accidents, such as having a flow of dinner-talk, or being in a business syndicate, or knowing a lord. This Institute (R.I.B.A.) has to win a place for the ablest building directors considered as essential ministers of civilisation, and to see to it that public works are done in a proper way."

"We have, in the meantime, merely to satisfy the whims of generously minded employers, and until we have a life independent of that hanging-on, no architecture is possible. One of the most important things in modern architecture is the Art of Dining Out."

"If we have not art, we shall just perish for ever. Art is cleanliness, tidiness, order, gaiety, serenity, mastery, the right way of doing right things. The civic arts are the arts of civilisation. The arts of civilisation itself."

"We have heaps of Teachers, Philosophers, Politicians, and Economists, but none that I hear of seems to understand that no nation can last without Beauty."

"Art is thoughtful workmanship."

"Beauty is the flowering of labour and service."

"Our men have splendid ability and earnestness, but society, after having trained them for a time, refuses to employ them in any rational way and leaves them to live by their wits. Is there any wonder that art, thus acquired and practised, sometimes turns sour and makes the artist see emerald green."

VALUES IN MODERNISM

I.—THE ABSENCE OF DETAIL.

By FRANK BENNETT, A.R.I.B.A.

The lull in building activity affords us, if little else, an opportunity to take stock of the position of our own architecture up to date. Two or three facts stand out very clearly, and they are these:—Freakish experiments in architecture are no longer

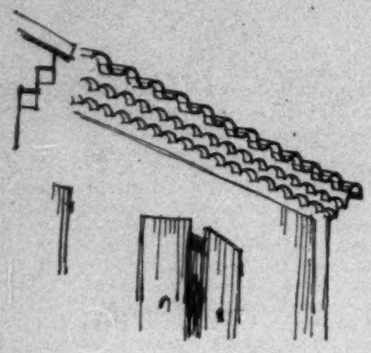


Fig. 1.—Traditional Form of Eaves Corbelling in Provence.

received with the same enthusiasm as of old. Swedish, German and other influences are losing their foothold and there is a stronger urge in favour of an English style. Forced horizontality as a means of expression, like forced verticality, has, it seems, had its run. A reaction has set in, the newest buildings are characterised by a less sensational form of design, by a subtle proportion of masses and by a severity of line and surface. The schools have already reverted to a fuller analysis of the past, and although to them the classic column is still nausea, this historic object has regained some ground.

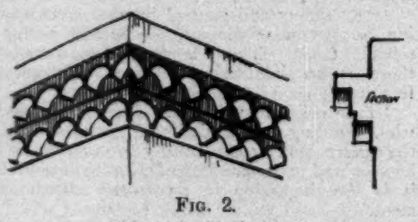


Fig. 2.

The time now seems ripe for a wholesome settling down, for a welding together of the revolutionary ideas of the present generation with the accepted tradition of the past three centuries. That this will take place there is not much doubt, but before it can happen there is one difficulty to be overcome, and that is the finding of suitable details in which to clothe the new architecture, for despite all its good qualities the one outstanding weakness of this new architecture is the absolute lack of appropriate detail and ornament.

It is of no use to pretend that a modern building does not require detail. The public are not going to remain satisfied with simple chunks of building, plain and unadorned, however well proportioned, no more than they are going to be satisfied with the sort of drawing board ornaments which mean nothing except on paper.

Any attempt to advise which ornaments and details are good and bad, or to lay down principles on which they should be designed would be out of place and presumptuous, but it is believed that the following notes, made recently in the South of France, may serve to suggest some lines on which satisfactory results might be achieved.

Architects and builders in the south of France are now making cornices and string

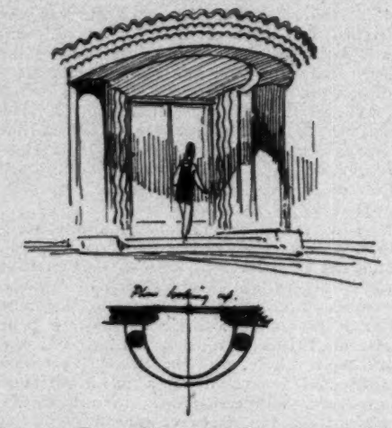


Fig. 4.—Tiled Entrance Porch to a New Beach Hotel, Provence.

courses with curved tiles. It has been the custom in this district for many years to use tiles in a way not often seen in other parts of Europe. They have been used for supporting the overhang of roofs by an arrangement of single tiling laid in one or more corbelled rows, the space or spaces between each row being blocked out with stucco. No special tiles were used for the purpose, but they were the same as those used on the roof.

This type of eaves support, limited in arrangement to this one form and often crudely put together, was a very practical one, and one which retained its popularity as much because of its economy as for its pleasant appearance. Despite its simplicity, the complete effect, with the curving silhouette of the roof tiling above, with the variety of detail, the subtlety of the reflected lights, and the lively outline of the shadow cast, had much of the value of a Corinthian cornice about it.

The custom of forming eaves finishes in this way flourished well on into the nineteenth century, but it eventually became displaced owing partly to the introduction of

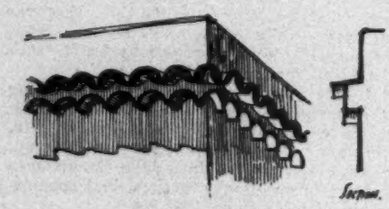


Fig. 5.

a more pretentious style of building and partly owing to the law requiring rainwater gutters to all roofs. These gutters cut across the eaves and completely disfigured the silhouette. It is now, however, in the new period of building activity that the old cornice has been seized upon for revival, not only because of its simple beauty but because it is seen to contain a theme of design capable of being expanded into a wide range of decorative *motifs*.

The new form of cornice is independent of

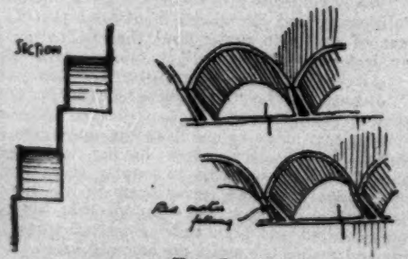


Fig. 3.

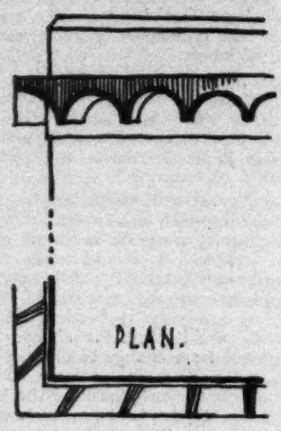


Fig. 6.

the eaves, and having no practical function is only employed for the purpose of abstract composition. But it has this important difference, that while originally it ran along only one face of a building at a time and then stopped short at a gable end, it now runs continuously around all four walls. This

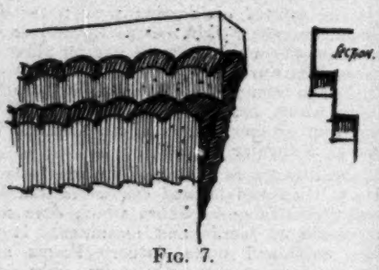


Fig. 7.

means that the cornice has now to be made to turn round corners, and the laying of tiles around corners is very difficult. If it is not done properly the rhythm of the curves is spoiled and the effect is poor. The ingenuity displayed in the variety of efforts to be quite

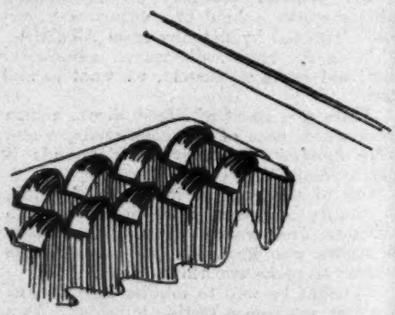


Fig. 8.—A Tile and Stucco String Course.

sure of the corners provides a never-ending source of delight to the critic.

In the making of the cornice, once the arrangement of the angle is decided and the tiles set, whatever its form the arrangement of the straight run is more or less dictated.

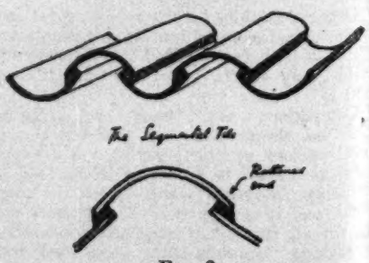


Fig. 9.

The angle tile and those adjacent to it have to be laid obliquely and specially cut to fit into place and to maintain the general projection. (Fig. 6.)

Fig. 5 is a particularly fine cornice on a low street wall bordering a garden. Its compactness and vigour of curve are obtained by a close overlap of the double tiles, which allows the lower course to keep the same spacing.

The cornices in Figs. 2 and 7, blocked out with stucco above both the lower and upper courses of single tiling, give an unbroken silhouette line, the one in Fig. 2 having the added emphasis of horizontal offsets worked in the stucco. Owing to the narrowing down in the width from one end of a tile to the other, little wedge-shaped gaps appear underneath between each pair of tiles. These are neatly filled in with stucco and tinted to match the Indian red colour of the tiles (Fig. 3), which, although they are whitewashed over in the early buildings, are now uncovered and relied upon for colour effect in the scheme of a façade.

String courses are handled in a manner similar to the cornices, except as in Fig. 8, which is a string course running high across a gable end. The termination of it is very successful in the way the stucco filling turns over the last tile to create an oblique line parallel with the rake of the gable.

The tiles, although varying considerably, are mostly of a flat sequental curve shape with the ends run out straight. This allows for a neat mortar joint when laying roofs. (Fig 8.) The more curved variety of tile, with smaller radius, is used in a different way.

(To be continued.)

"Dawn At St. David's."

From a Drawing by Mr. Reginald Hallward.

ECONOMY IN THE BUILDING INDUSTRY: WHAT IT MEANS

By J. R. TAYLOR.

THERE are many people to whom very large figures convey little of meaning, and to them the presence or absence of a few other noughts at the end of an already long row of figures makes little difference in their conception of what the sums dealt with represent. That is one of the reasons why the magnitude of the building industry is so very often not properly appreciated. Those who live in, or whose business takes them into, the heavy industrial areas seeing large crowds of men all obviously earning their living at one particular trade, come to some realisation of the importance of that trade. In a colliery district, for instance, one sees thousands of men going to and from their work, knows that this is only one of many such districts, and so comes to some understanding of the importance of coal-getting. So, too, with the production and manufacture of steel, the manufacture of cotton goods and all other industrial works on which those parts of the population engaged therein are concentrated. One has only to visit a great port to realise something of the importance of shipping.

For this reason, if anything takes place that gravely affects the prospects of any of these industries it has a news interest and is brought to public notice in such a way that the paying off of three thousand men engaged in building a big ship has greater effect on popular imagination than a statement that two hundred thousand building operatives had been added to the ranks of unemployed men.

It is by no means generally understood that the building trade is the greatest wage-paying industry in the country. Colliers and steel workers are concentrated, but builders are scattered; consequently, it is not readily realised that as many men are engaged in building as in coal-getting and that when the men engaged on the manufacture of building materials are taken into consideration the building industry pays out more weekly wages than any other. These are matters of very grave importance that should have a very great influence on those with whom lie the decisions as to how far this great wage-paying industry shall be closed down.

We are passing through what some have termed an "economy campaign." Others have spoken and written of it a little more bluntly as an "economy stunt." It does not matter how it is described, but perhaps it might be said to have opened as a campaign and in certain quarters to have degenerated into a stunt. Be that as it may, it would seem that those controlling or endeavouring to control it have in some instances been over impetuous. Central authority has rightly decreed that national expenditure shall be decreased until it falls below national income, and has impressed this upon the local authorities, who, realising the existence of a national emergency, have duly responded, but in doing so have not altogether understood the accumulative effect of the measures adopted. It becomes necessary to realise fully that the building industry, though scattered, is the greatest wage-paying industry that we have. Throughout the country a standstill order as to projected building schemes has had, and is continuing to have, just as much effect on wage-earners as though it had been determined that consumption of coal should be reduced. Give orders that for the coming year ten million pounds' worth of coal shall cease to be consumed in the country, and it would probably throw a lesser number of men out of work than by reducing building output by the same amount, in value. I am not, of course, suggesting that we should resume building and close collieries instead, but am merely trying to show the results to be expected from measures too hastily adopted.

It is not possible to give any really authoritative figures as to the amount of building work that has been temporarily shelved in pursuit of this economy campaign, even if only that part of it which is controlled by local authorities is taken into account. It is, however, in the aggregate much in excess of any of the figures so far mentioned, as these are merely used for illustrative and comparative purposes. To understand their cumulative importance, some figures taken from the *Ministry of Labour Gazette* go to show how seriously the building industry was already suffering from declining trade before these measures were adopted. For August, September and October of 1931, the returns made by 142 of the principal urban authorities of Great Britain, but excluding the London County Council, show that the plans passed for buildings in those three months fell in estimated value of work to be done by upwards of two-and-one-half million pounds. And it is most unfortunately true that comparatively few of the plans passed in these three months have resulted in the placing of definite contracts. In some cases the halt was made so suddenly that sealed tenders delivered in October still remain unopened. It would seem to follow that as wages bear so high a proportion to total costs of production it would soon have been necessary to devise means of increasing employment in this wage-paying industry rather than to introduce delayed action tending to set up exactly contrary results.

As mentioned in *The Builder* for December 11, 1931 (page 946), the falling off in wages paid in the building trade Mr. H. B. Bryant, secretary of the Advisory Council of the Building Industry, anticipates will amount to over two-and-one-half million pounds per week. This is something that the country cannot afford. To stand off men who could usefully be absorbed into some other occupation could to some extent be understood; but to stop skilled men with the positive certainty that there is no resort for them but the processional ranks of dole receivers, and to pay them for standing in those ranks, when there is work to be done of which the country is in need, appears to be economy run mad. Were it the case that building works could not be carried on without importing so large a mass of foreign material as seriously to retard the recovery of the pound, suspension of work would in some degree be understandable; but with the exception of timber, there is practically nothing used in building that we cannot produce at home. As to timber, we are not without Empire resources.

In considering this question it has always to be borne in mind that money spent on building is a capital investment which usually yields a high return as compared with the yield of other first-class securities. It cannot be said that a capital investment is inconsistent with true economy, or in fact that it is in the ordinary acceptance of the word real expenditure. That is to say, that in a balance-sheet it would figure amongst the assets and not the liabilities. For instance, if one purchases a thousand pounds of Government stock one does not spend money in the usual acceptance of the word "spend," but puts a certain amount of one's wealth out at interest. If a man owns a house and sells it, and with the proceeds buys Consols, he does not spend a house; and conversely if he sells Consols and builds a house he does not spend Consols. In either case all that he has done is to change the form of his investment. But from a national point of view building yields a very high return on the money invested in it for the following reason:—Assume the Government to raise, say, a ten million loan for building at 5 per cent., and with it to erect property that will let at rentals covering the loan charges, and provide a redemption fund, it neither makes nor loses money on the transaction so far. But if by investing—not spending—ten millions in building it provides eight million pounds wages and saves itself from spending upwards of three millions on dole, surely it is obvious that it makes an immense profit on the transaction.

In exactly the same way the private investor adds to the profits he will make by investing his money in new building, because he thus reduces the amount of taxation that would otherwise be subtracted from his profit from other investments not disbursing such a high proportion in wage payments.

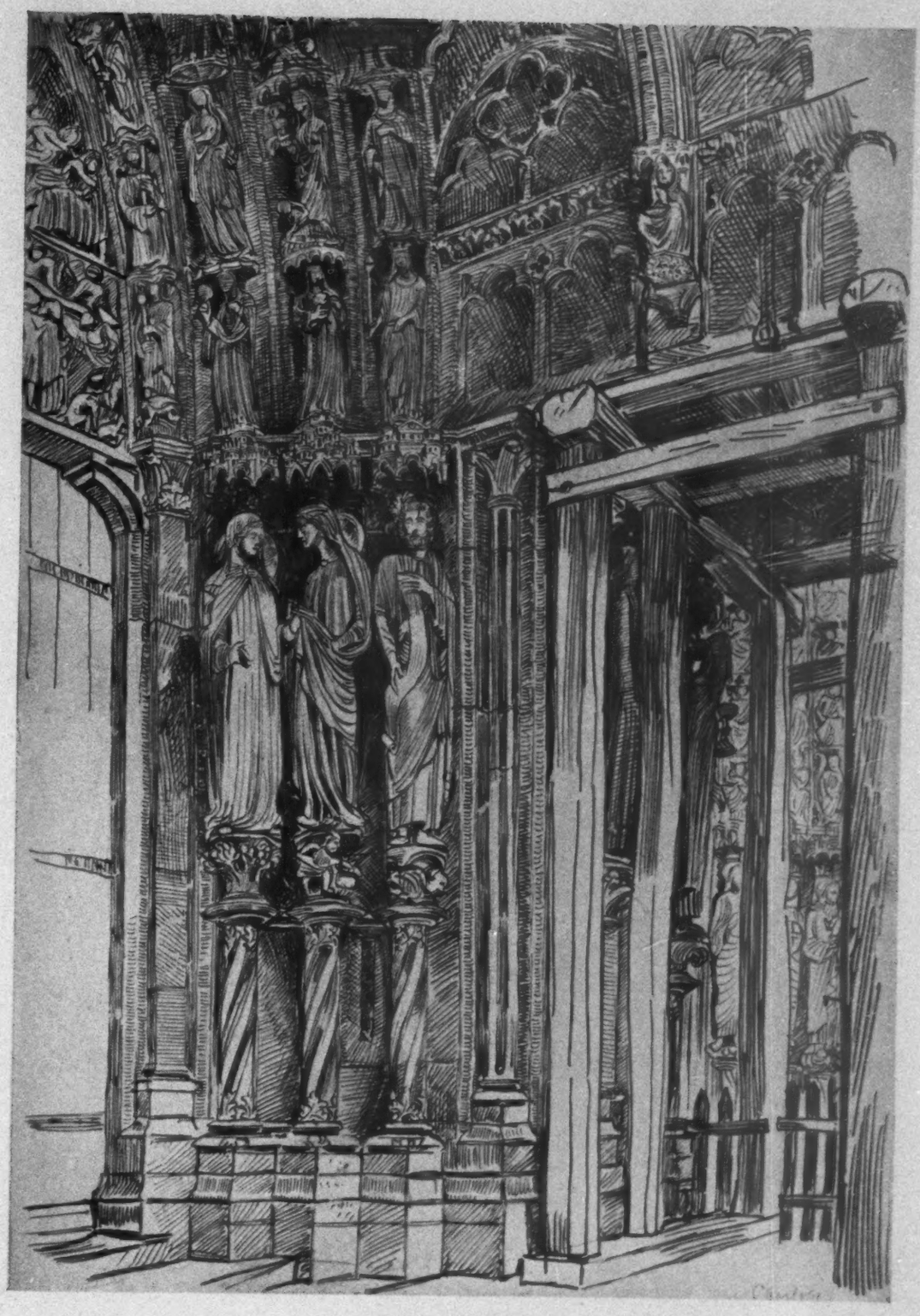
It would seem that in a study of the effect on our import and export trade lies the key to the whole situation. It cannot be said that money invested at home yielding a return on capital expenditure is weakening our position. Money spent on imported luxuries or even on goods that are not luxuries but can be dispensed with, is in another category, which does not here fall to be considered. To subsidise unemployment rather than to encourage, in every way possible, useful employment, cannot be defended.

One or two facts that have recently come under notice point to a hope that a better understanding of the matter has already set in, and that a cautious reversal of policy has begun. I would point to the need of haste. The building industry differs from others in that it can neither go on to part-time production nor manufacture for stock. To build economically, orderly progress has to be arranged in advance. Slaters cannot cover in a roof before the bricklayers have built the walls and the carpenters have fixed the timbers. All the crafts are likewise interdependent. If the trade is brought even slowly to something approaching a stoppage it will take a long time to get it properly going again. Disorganisation is always very costly in its after-effects. In the building trade it is when business is brisk that costs are low, because labour is then used to better advantage than when staffs are depleted. From times of depression the building trade is always amongst the last to recover, because it is not until profits have been made in other industries that money is available for building.

There is no need to claim for the building trade anything in the nature of a right to preferential treatment; all that is necessary to do is to show that it forms an essential part of the whole body politic, and that to single it out for special reduction in search of economy is merely to cut off one's nose to spite one's face. Building being the greatest wage-payer of all, and engaged on the production of something of lasting value that adds to instead of taking from the nation's wealth, it is the height of unwisdom to adopt measures likely to curtail its usefulness. I am quite unable to believe that those with whom at present rests the power to come to decisions can for long ignore matters of such essential importance, and I look for a speedy recognition of the mistakes made. The more quickly recognition comes the less costly will be the rectification of the damage done.

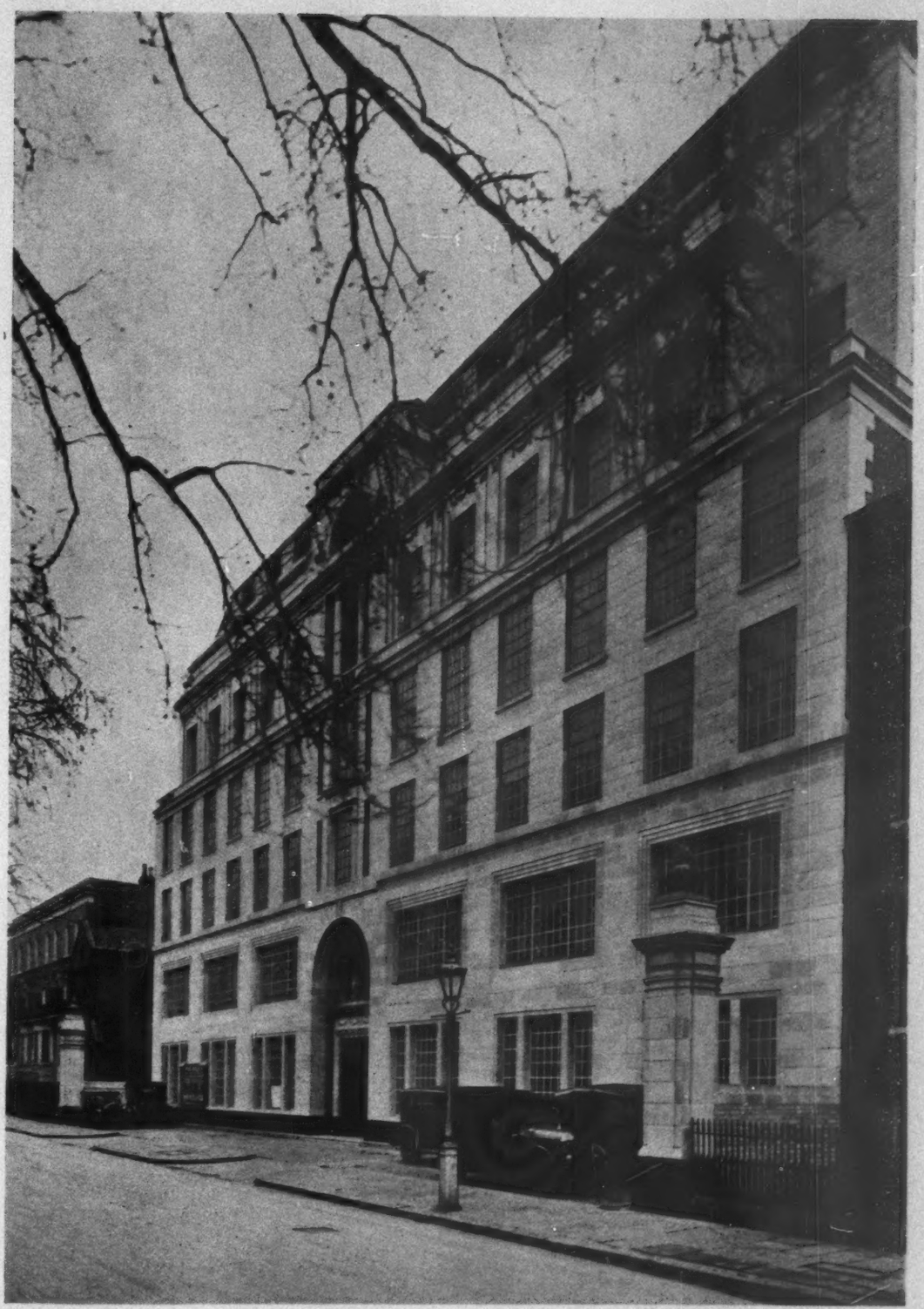
It is not, however, only the Government and local authorities who are doing grave damage by holding up building work in this emergency. Influenced by authoritative example, the private investor has taken alarm. If there is one form of security that is safer than most it is that given by building. Buildings continue to have a value after their high yield has completely made good the original capital outlay, together with handsome interest. Property may appreciate or depreciate in value after erection, but except a freakish project is engaged in the full return of capital with interest is assured. It is just that fact that has placed the building societies in such an unassailable position. It follows that to build now is both patriotic and prudent, and with such ample stocks of material available, skilled labour so abundant and eager, the present time affords a great opportunity to those who will now build, provided they act under the expert advice that the architect is so well able to give.

In a communication on this subject, Messrs. C. H. Leeland and Co. write that they are certain that so soon as monetary conditions improve something in the nature of a healthy boom in the building and allied trades can be expected."



Chartres.

From a pen-and-ink drawing by the late W. R. LETHABY.



"Vincent House," Vincent Square, Westminster.

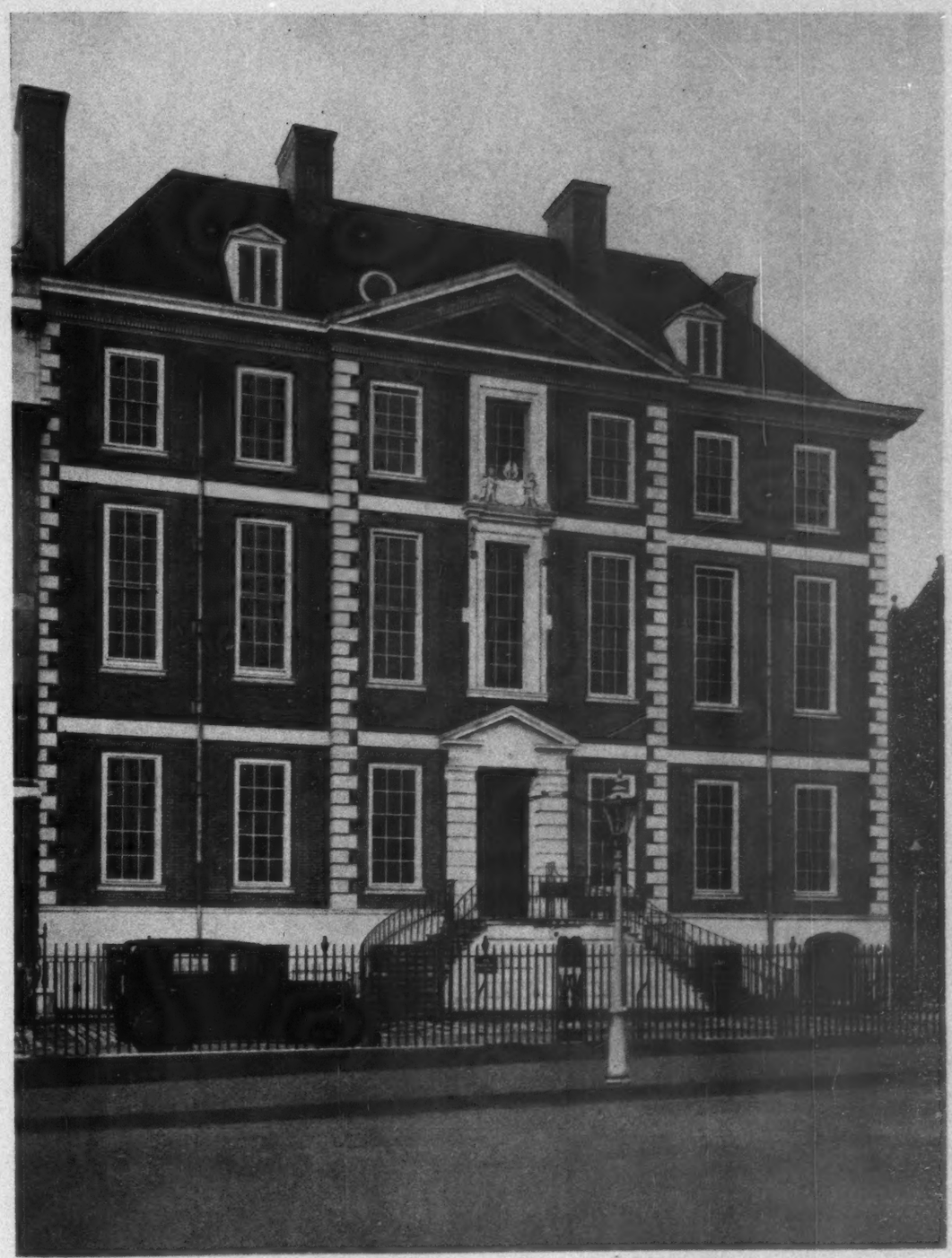
MESSRS. A. GILBERT SCOTT, F.R.I.B.A., and F. P. M. WOODHOUSE, A.R.I.B.A., Architects.
SIR GILES SCOTT, R.A., F.R.I.B.A., Consultant Architect.

"Vincent House," Vincent Square, Westminster: Detail of Entrance.

MESSRS. A. GILBERT SCOTT, F.R.I.B.A., and F. P. M. WOODHOUSE, A.R.I.B.A., Architects.

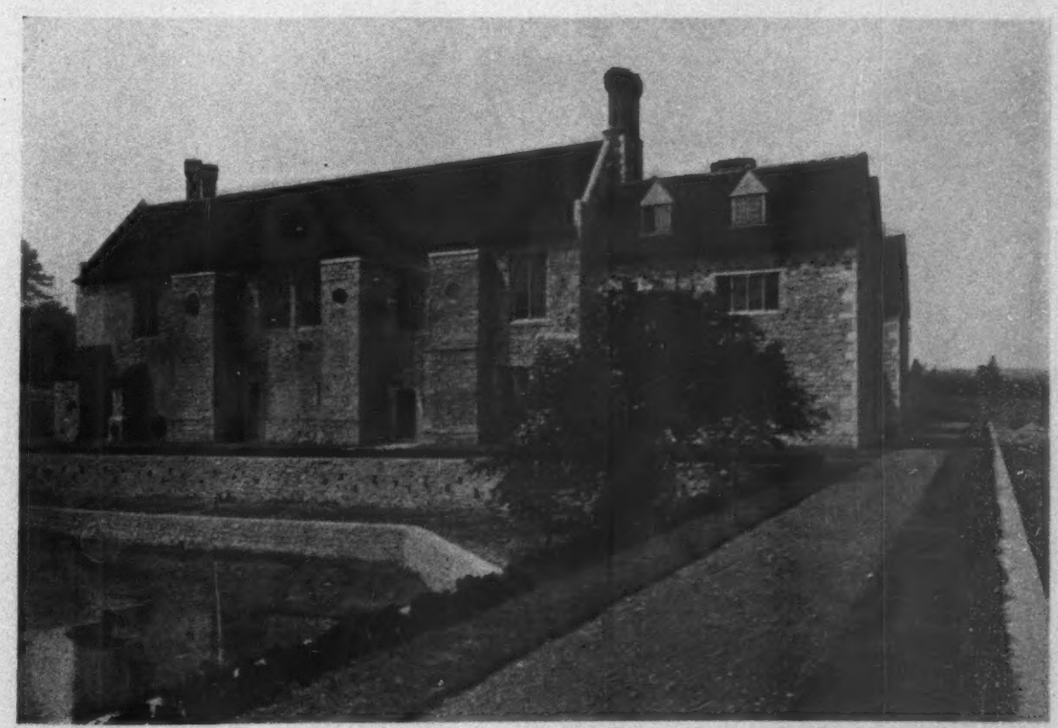
Photo: Stewart Bale.

Liverpool Cathedral: Progress Photograph.
Sir Giles Scott, R.A., F.R.I.B.A., Architect.



"Newcastle House," Lincoln's Inn Fields, W.C.: As Reconstructed.

MR. DENDY WATNEY, F.S.I., in association with SIR EDWIN LUTYENS, R.A., Architects.



Nettlestead Place, Wateringbury, Kent.

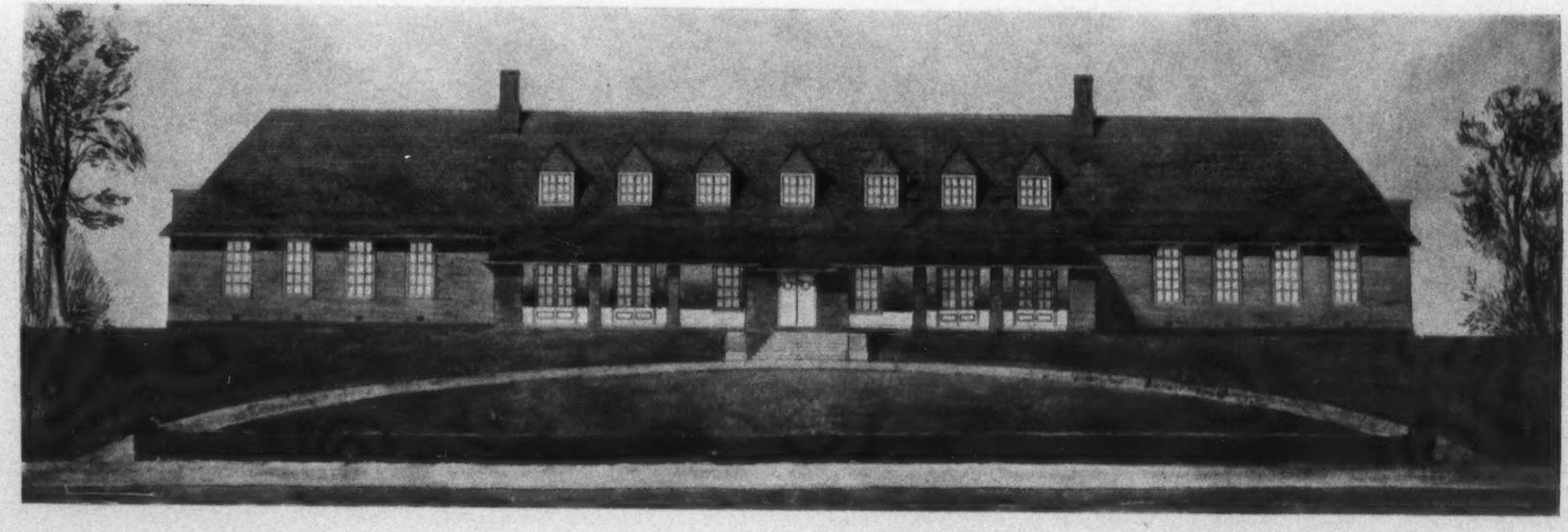
As restored by Mr. P. Morley Horder.

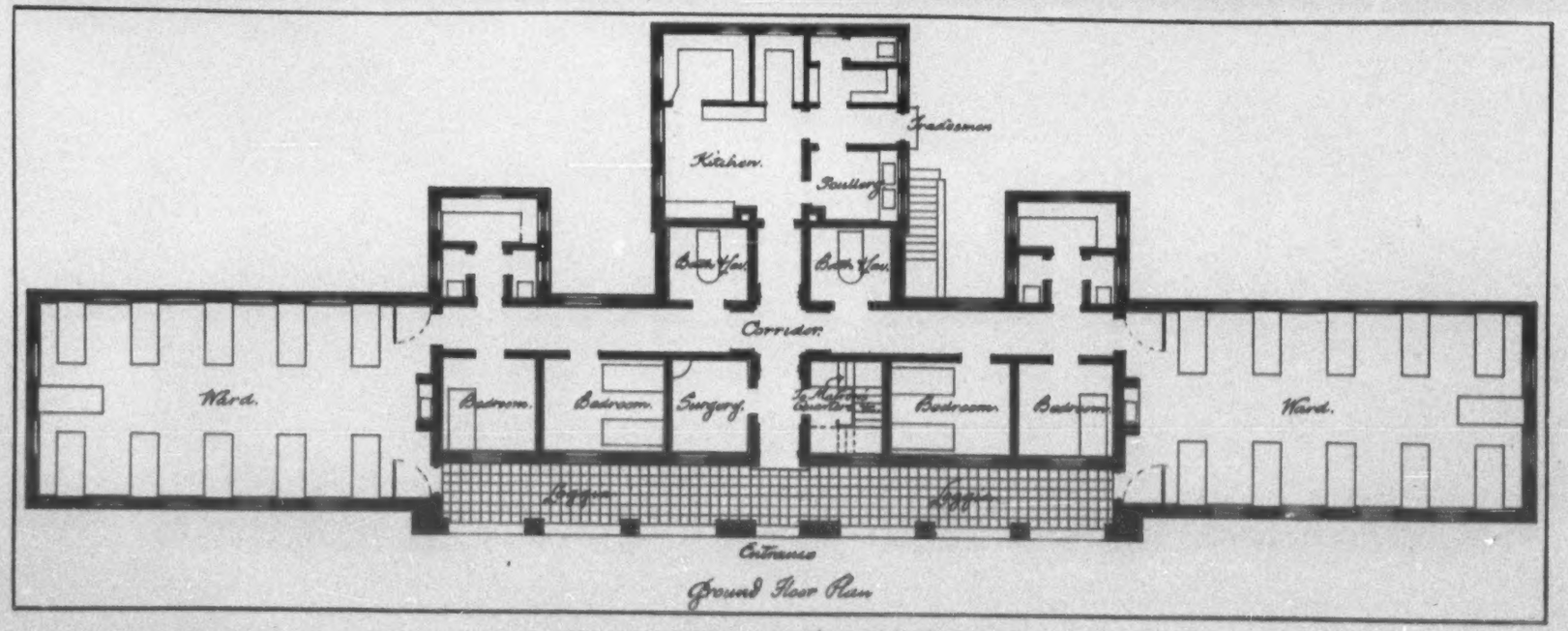
THE UNDERCROFT.

Nettlestead Place, Wateringbury, Kent.

CONVERSION OF FARM BUILDINGS, WITH REMAINS OF UNDERCROFT OF ABBEY.

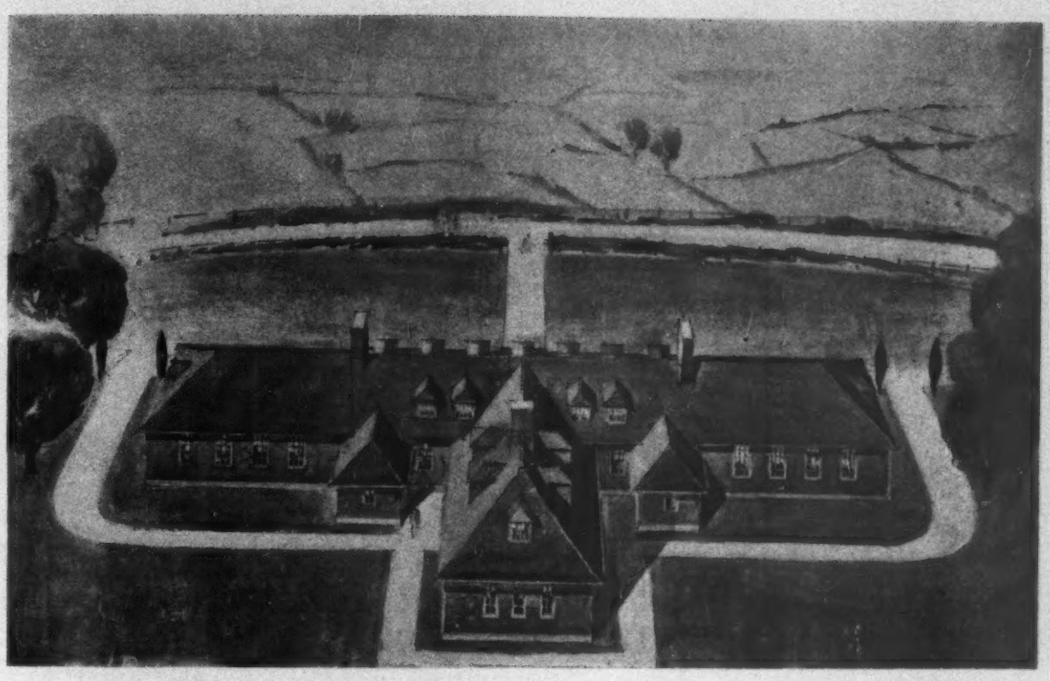
MR. P. MORLEY HORDER, Architect.





The Sanatorium, Bryanston School, Dorset.

SIR EDWIN COOPER, A.R.A., Architect.



BIRD'S EYE VIEW.

FRONT VIEW.

The Sanatorium, Bryanston School, Dorset.

SIR EDWIN COOPER, A.R.A., Architect.

"The Builder" Calet

Sir John Burnet, R.A., Tait and Lorne Architects. Mr. .

From a Sketch by Mr. Jo

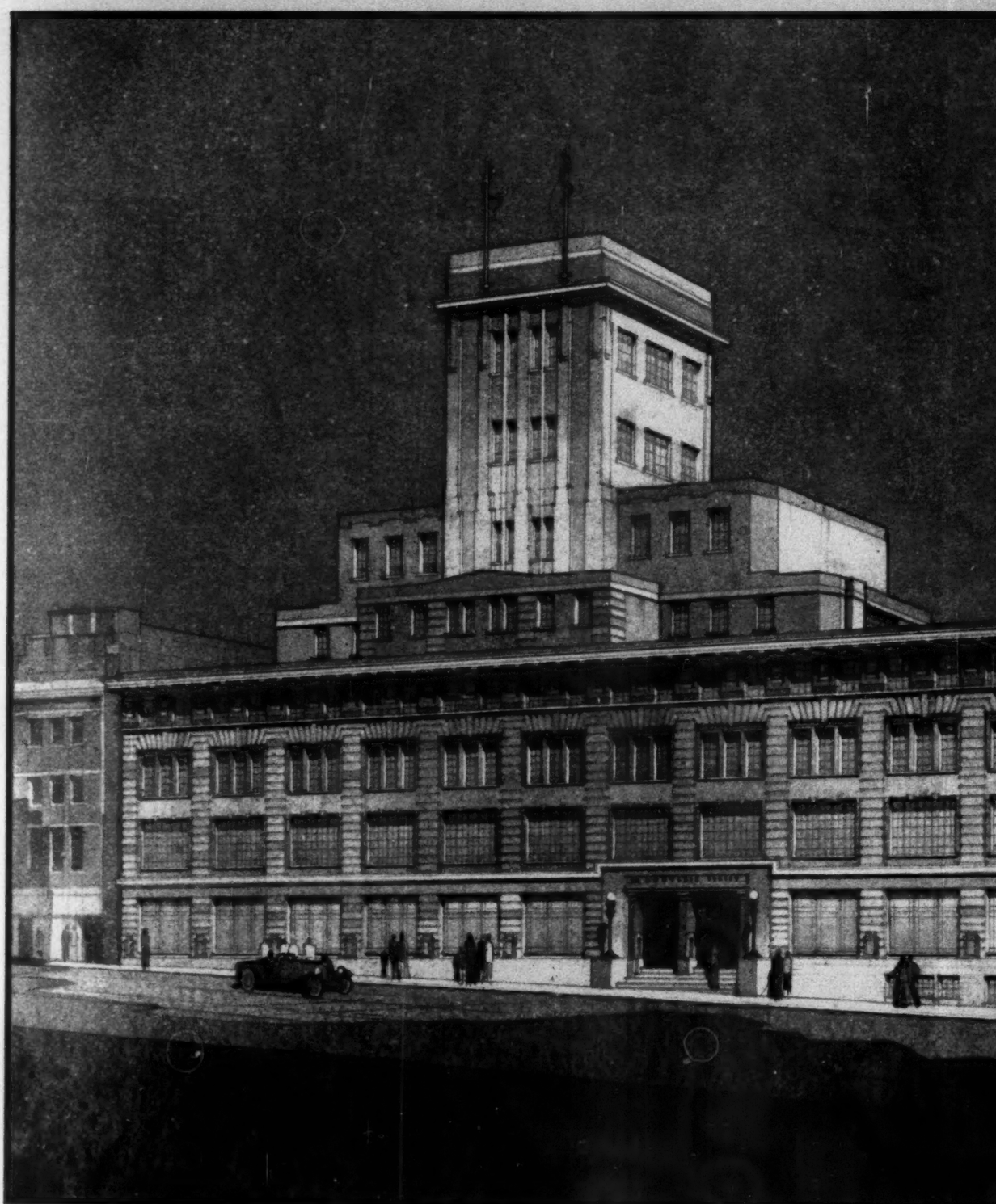
January.							February.							March.							April.							May.							June.						
S	M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	M
...	...	...	...	...	1	2	...	1	2	3	4	5	6	...	...	1	2	3	4	5	...	...	...	...	...	1	2	1	2	3	4	5	6	7	...	...	...	1	2	3	4	...	...
3	4	5	6	7	8	9	7	8	9	10	11	12	13	6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14	5	6	7	8	9	10	11	3	4
10	11	12	13	14	15	16	14	15	16	17	18	19	20	13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18	10	11
17	18	19	20	21	22	23	21	22	23	24	25	26	27	20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25	17	18
31	25	26	27	28	29	30	28	29	...	...	...	...	...	27	28	29	30	31	...	...	24	25	26	27	28	29	30	29	30	31	...	...	...	...	26	27	28	29	30	...	...	31	25

' Calendar, 1932.

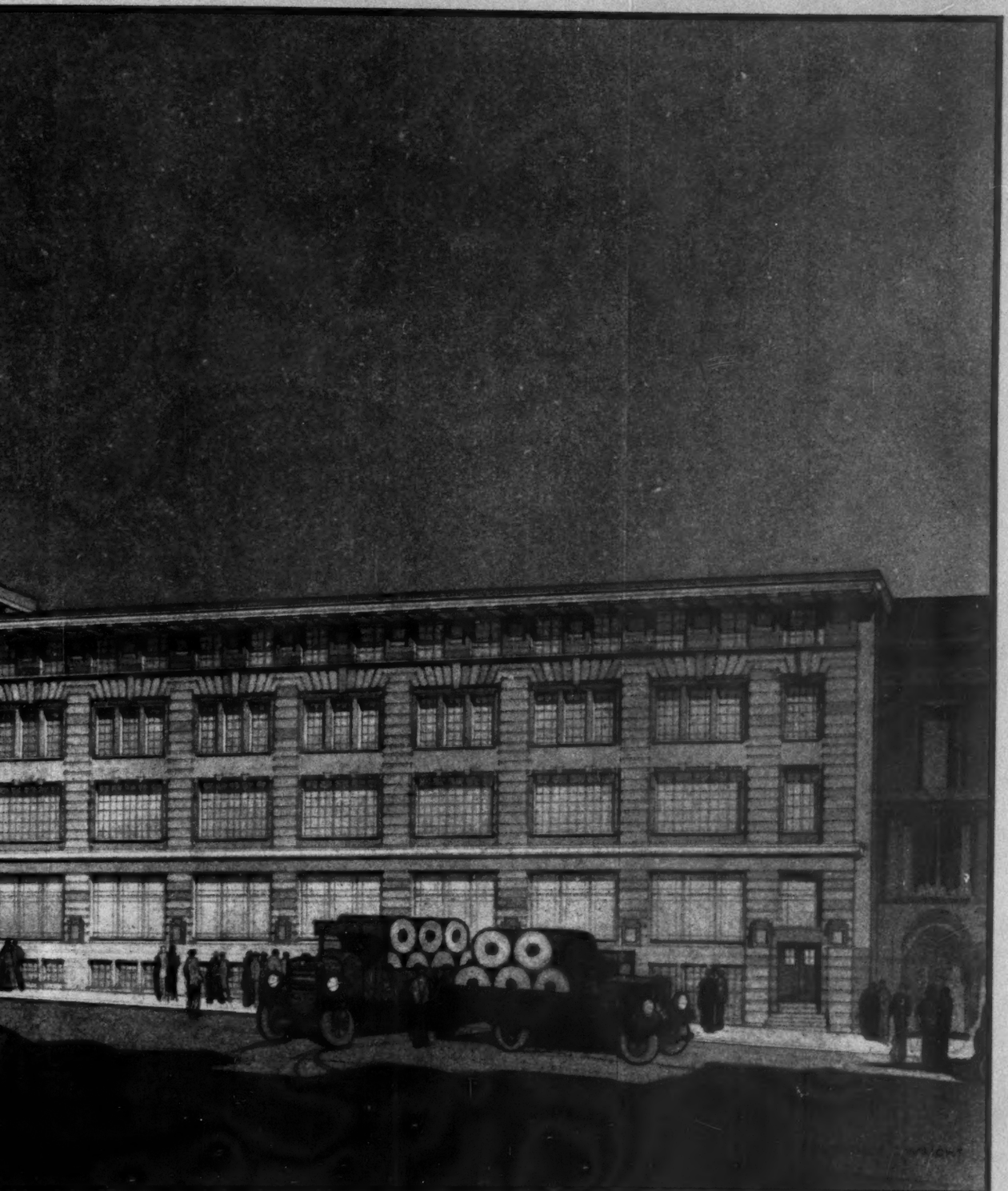
itects. Mr. J. Lomax Simpson, Consultant Architect.

by Mr. Joseph Pike.

July.								August.								September.								October.								November.								December.							
F	S	S	M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	S	M	T	W	Th	F	S	S	S	M	T	W	Th	F	S	S	S	M	T	W	Th	F	S
3	4	...	...	...	...	...	1	2	...	1	2	3	4	5	6	...	...	...	...	1	2	3	...	...	...	...	...	...	...	1	...	...	1	2	3	4	5	...	...	...	...	1	2	3
10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10
17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17
24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24
...	...	24/31	25	26	27	28	29	30	28	29	30	31	...	...	...	25	26	27	28	29	30	...	23/30	24/31	25	26	27	28	29	27	28	29	30	...	...	...	25	26	27	28	29	30	31



" NEWS OF THE WO

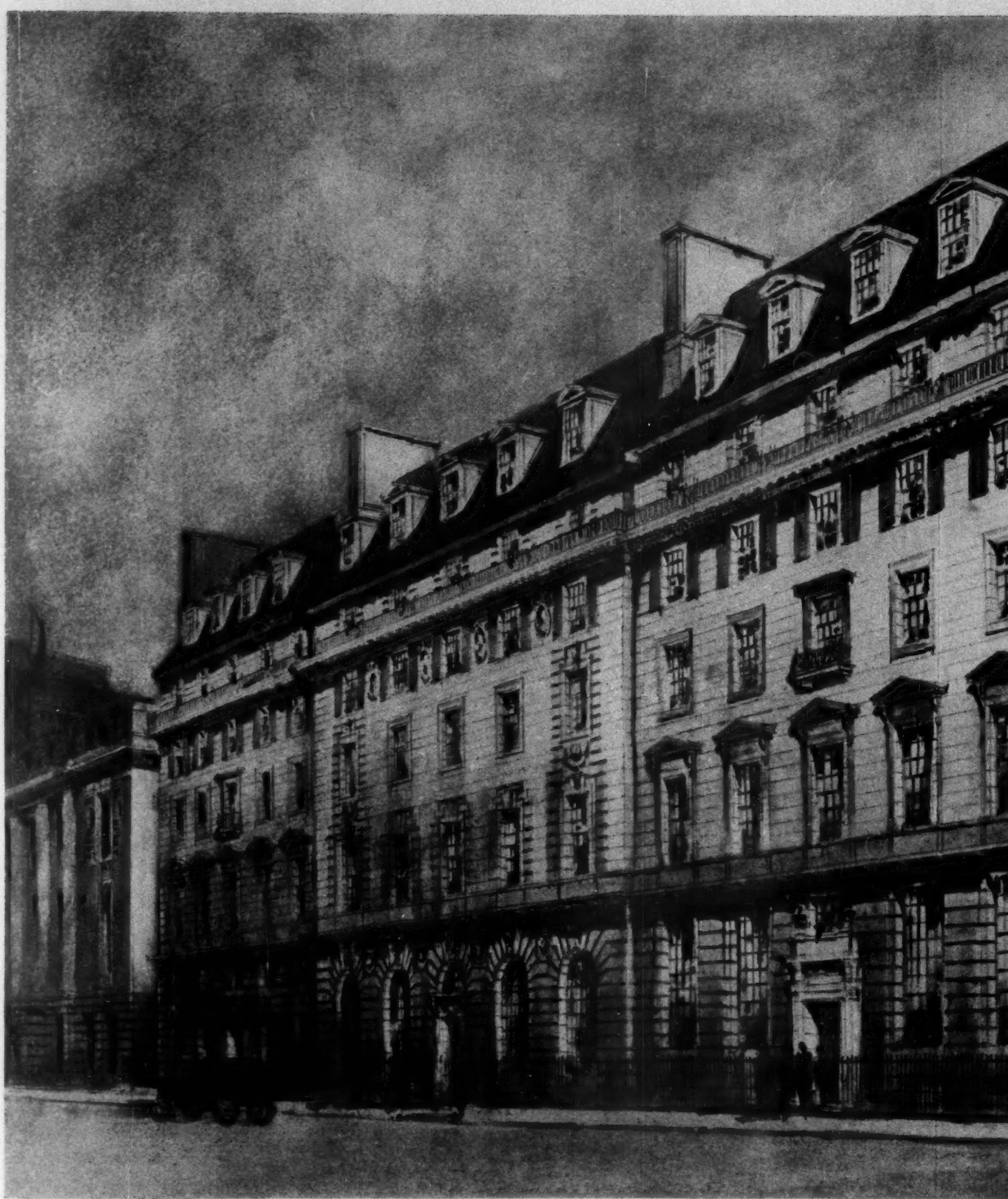


WORLD "

A. ALSAN H. SCOTT, F.R.I.B.A., ARCHITECT,
13, OLD SQUARE, LINCOLNS INN, W.C.2.

Feast of the Blessed Virgin: a fantasy of the 15th Century, circa 1480.

From a drawing by Professor A. E. Richardson, F.S.A.



Extension to the College of Nursing and Cowdray Club,

SIR EDWIN COOPER, A.R.A., A

wdray Club, Henrietta Street, Cavendish Square, W.
OPER, A.R.A., Architect.

Cumberland Hotel, Marbl

MR. FREDERICK J. WILLS, F.R.I.

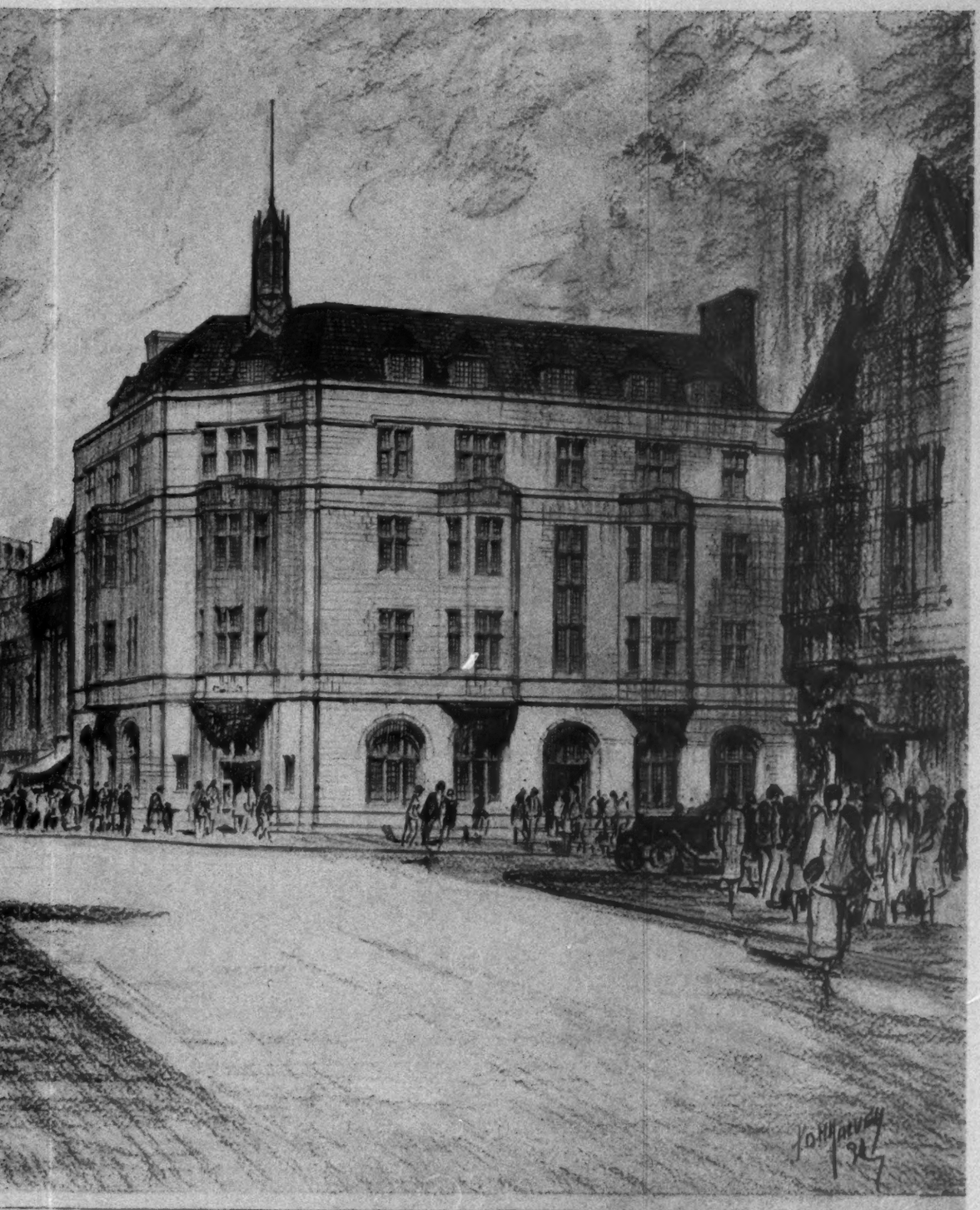
Hotel, Marble Arch, W.

. Wills, F.R.I.B.A., Architect.

NEW BUILDINGS, CA

EXTENSION TO MUNICIPAL BUILDINGS

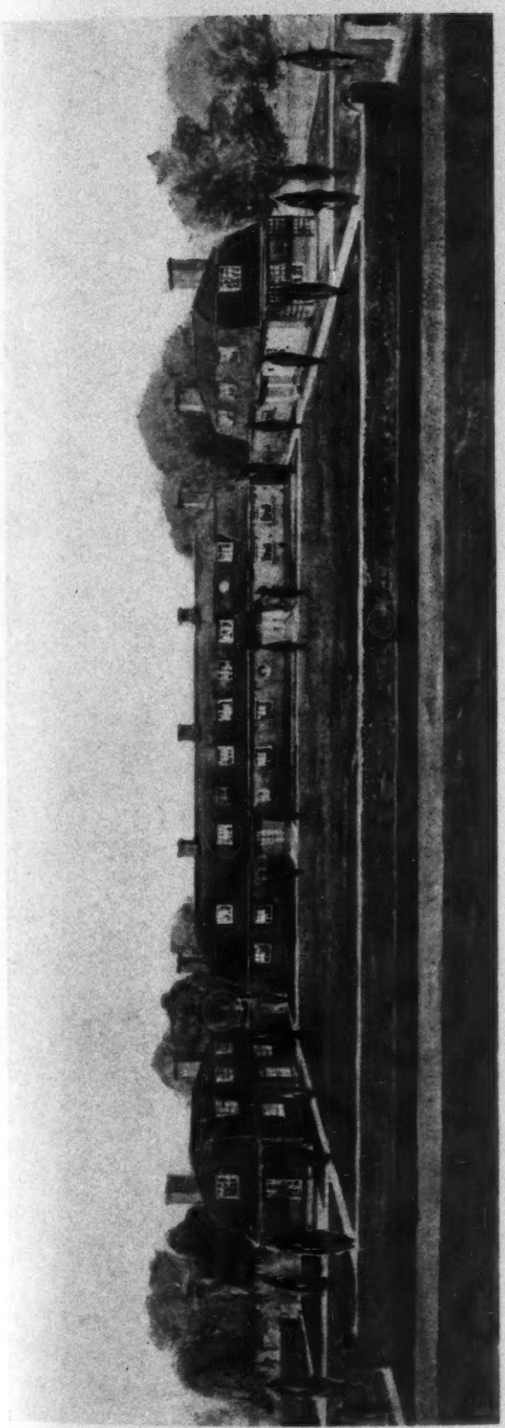
H. V. ASHLEY & WINTON NEW
ARCHITECTS: 14 GRAYS INN

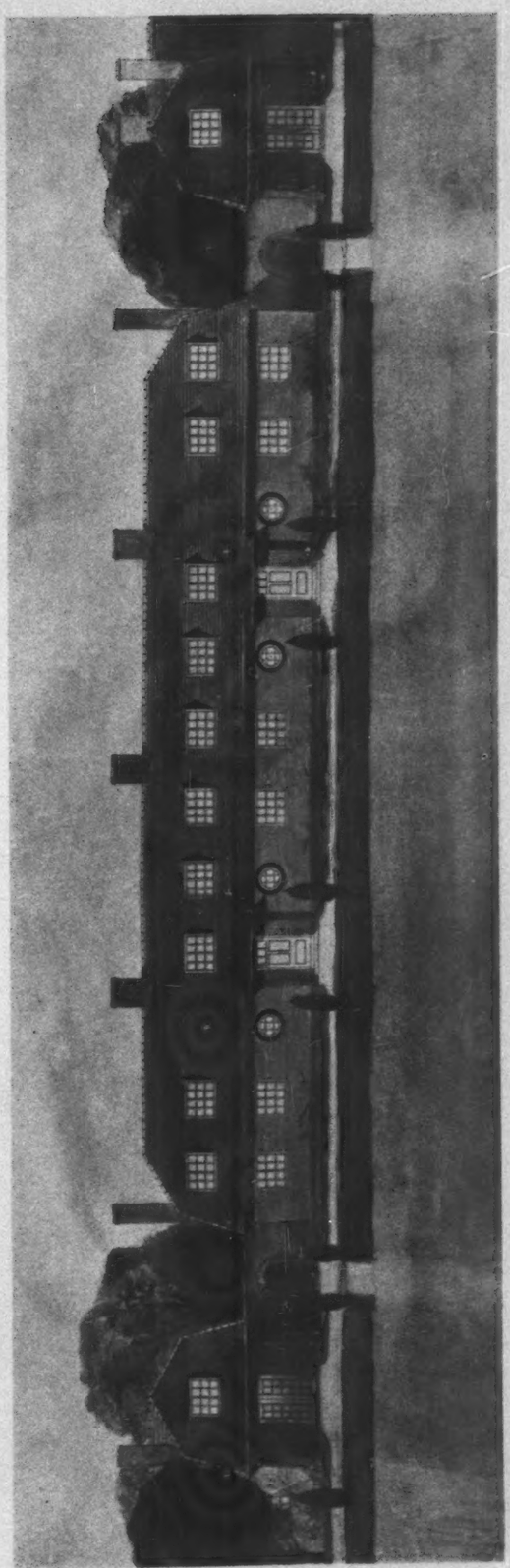


S, CARFAX OXFORD

NTON NEWMAN F.F.R.I.B.A.
AYS INN SQUARE. W.C.1

BANK FOR MESSRS GLYN MILLS & CO.





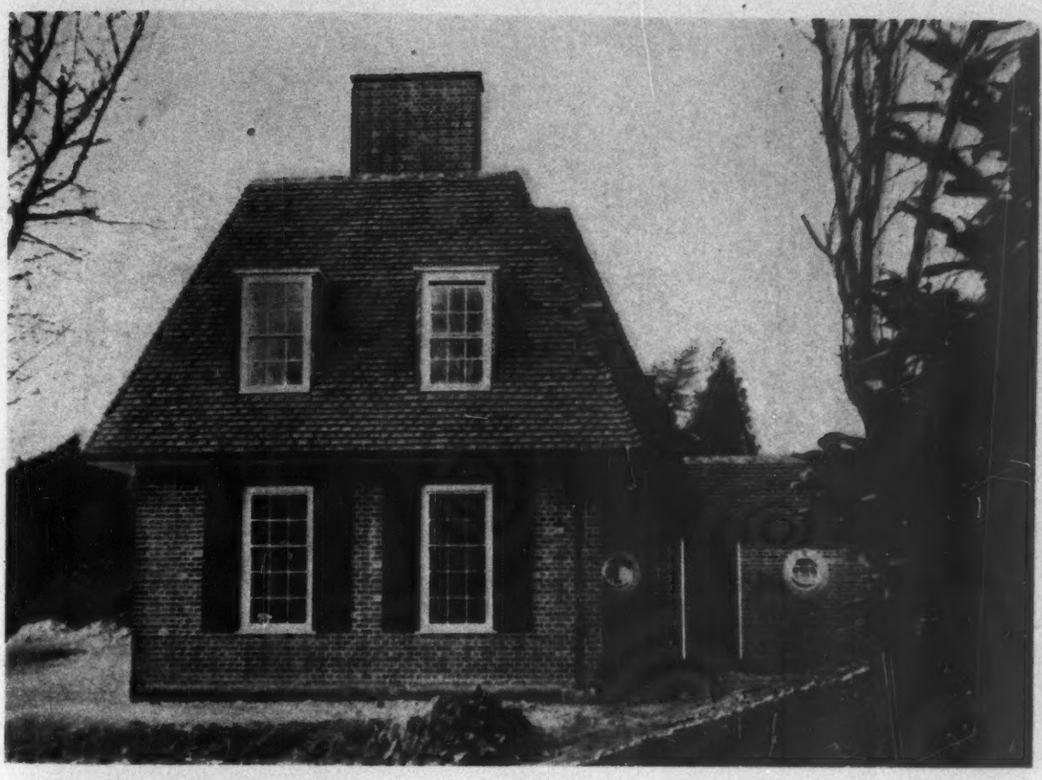
Bryanston School, Dorset: Tutors' Houses.
SIR EDWIN COOPER, A.R.A., Architect.

GARDEN FRONT.

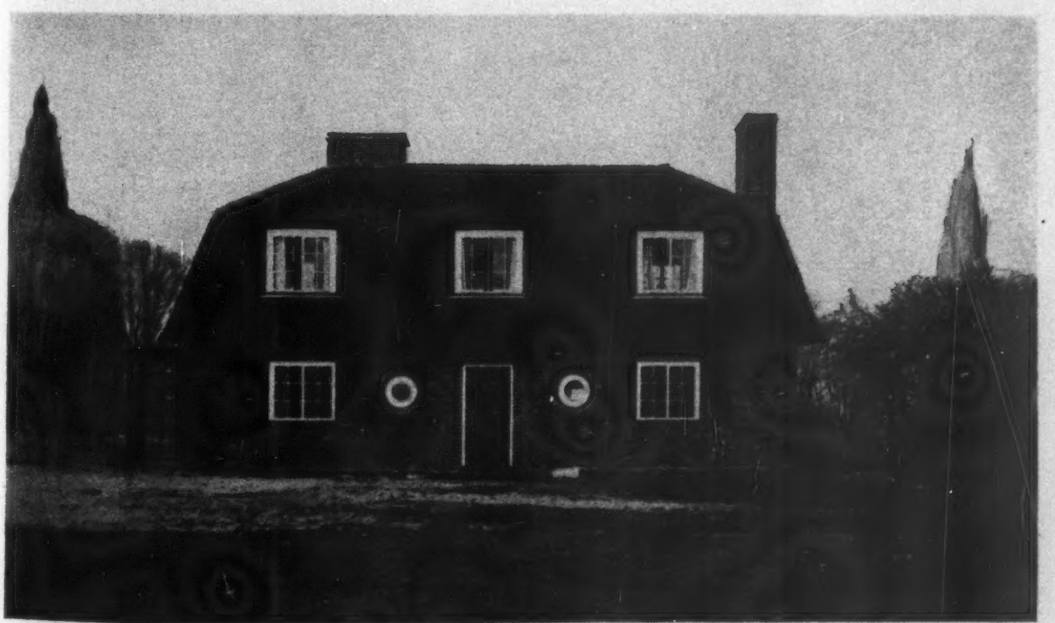
ENTRANCE FRONT.

Bryanston School, Dorset: Head Master's House.

SIR EDWIN COOPER, A.R.A., Architect.



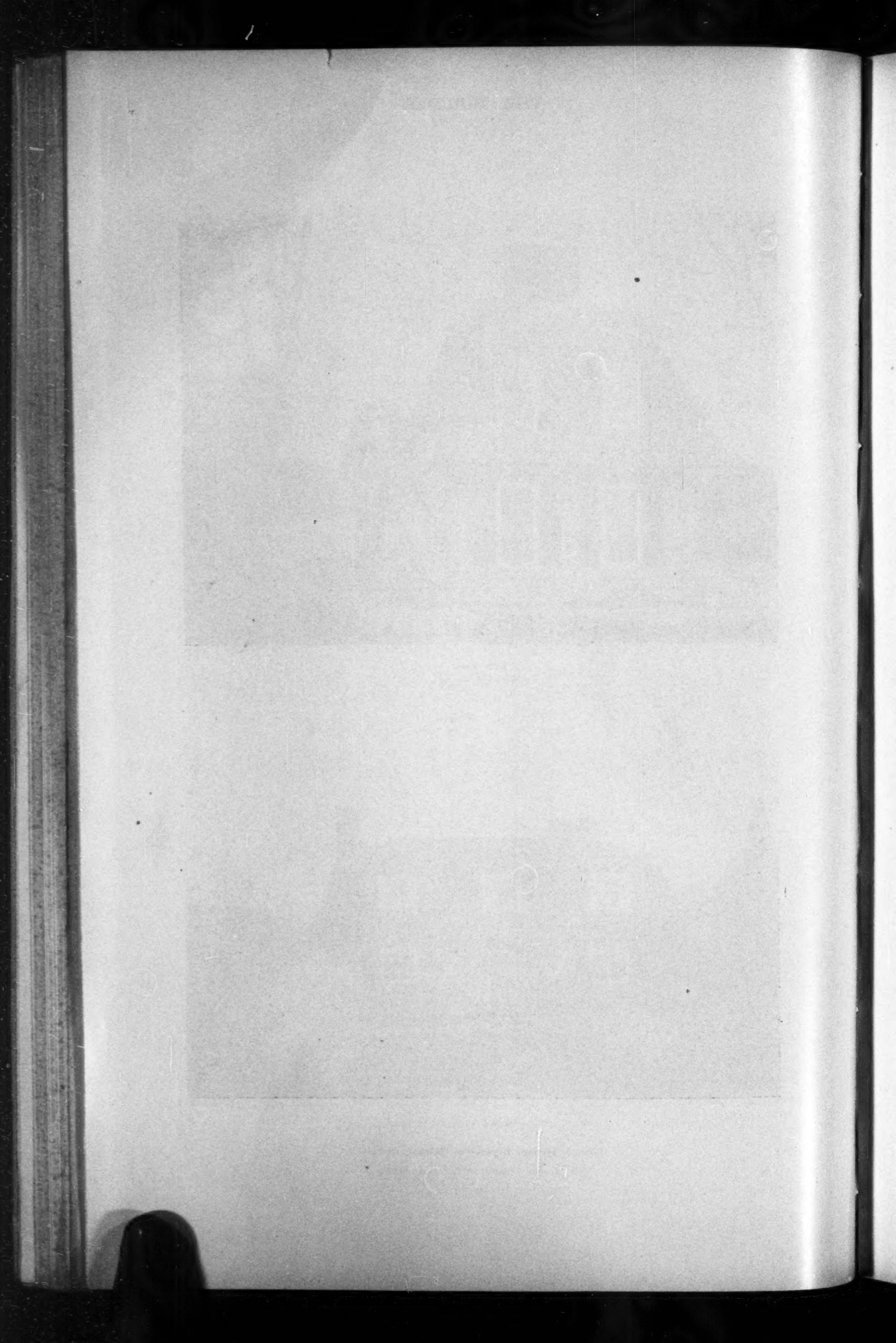
END VIEW.



FRONT VIEW.

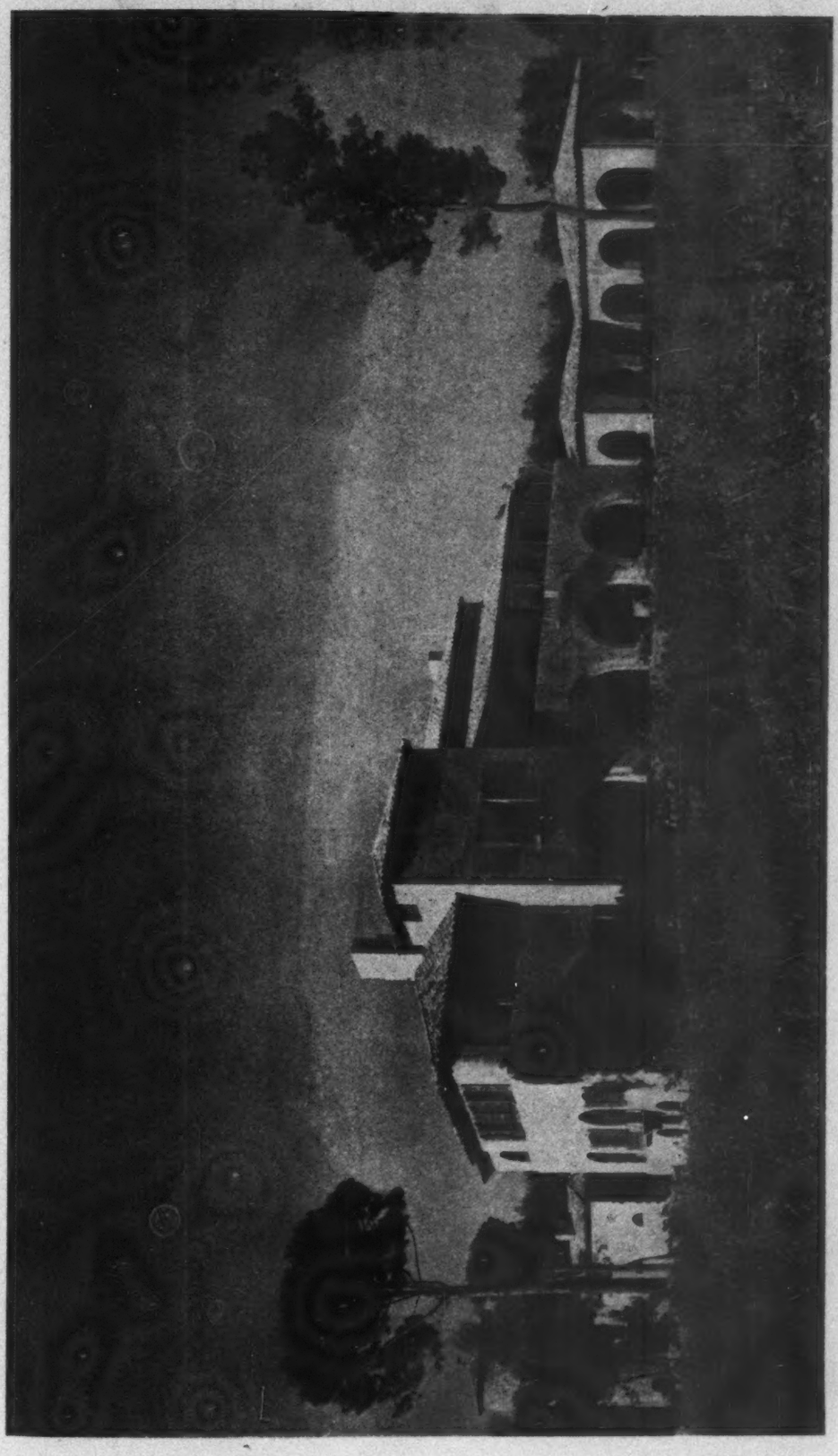
Tutor's House, Bryanston School, Dorset.

SIR EDWIN COOPER, A.R.A., Architect.



Third Church of Christ Scientist, Curzon Street, Mayfair: View Showing tower, recently completed.

Messrs. Lanchester & Lodge, FF.R.I.B.A., Architects.



House at Cannes: South Façade.

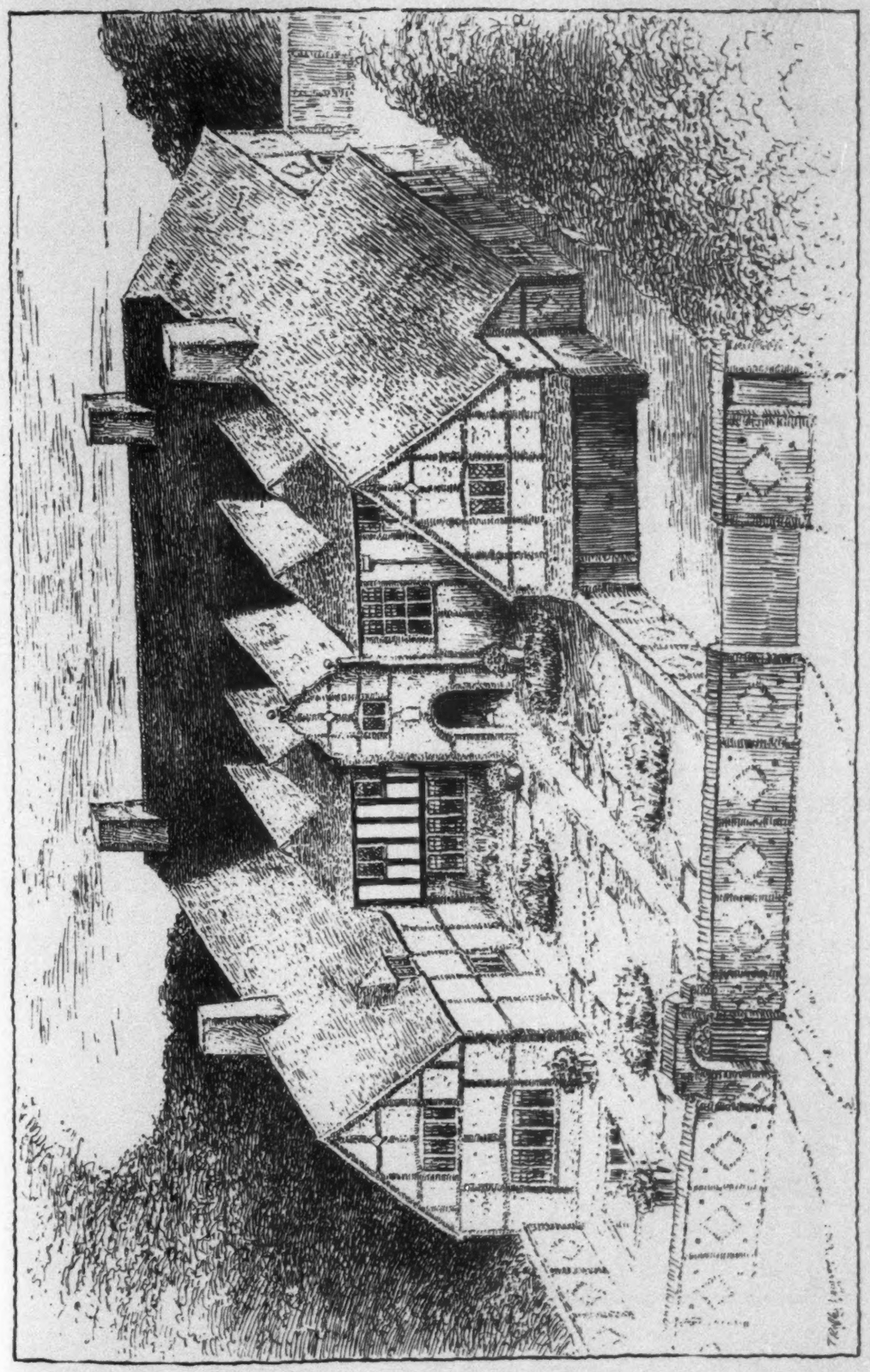
Mr. Oliver Hill, F.R.I.B.A., Architect.

HALL.

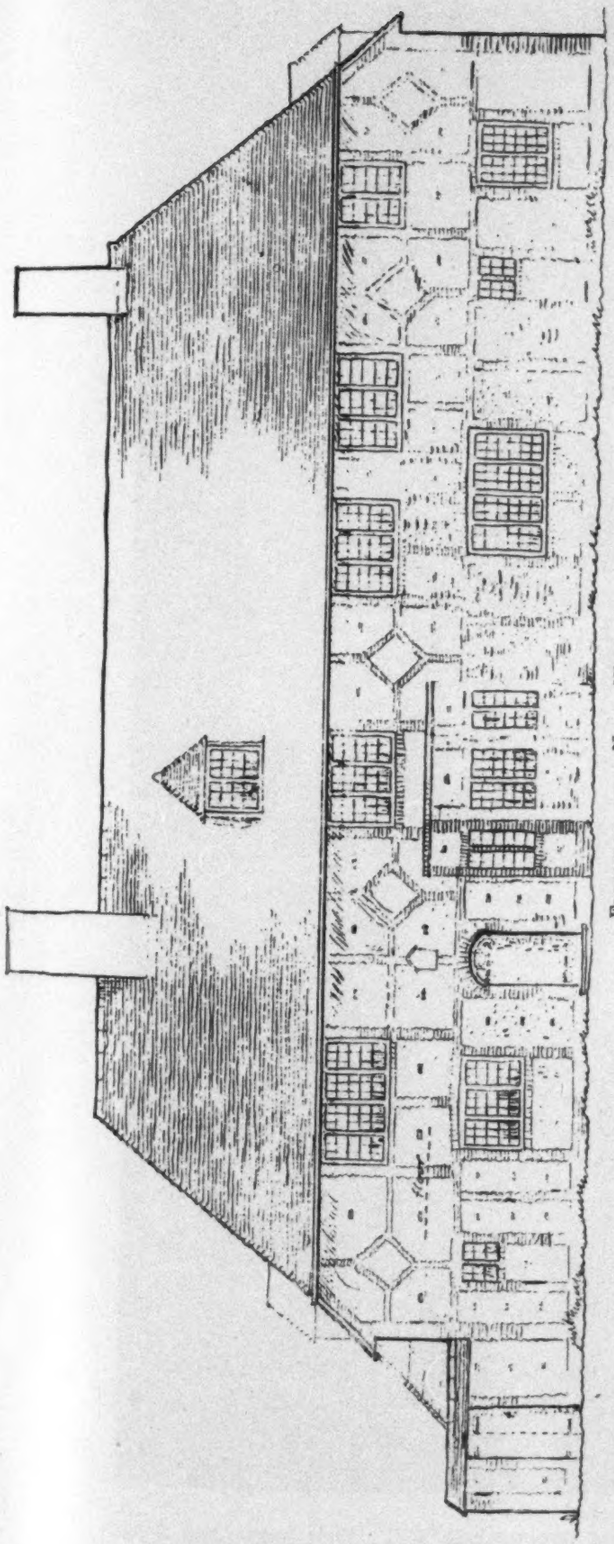
ENTRANCE FRONT.

House at Cannes.

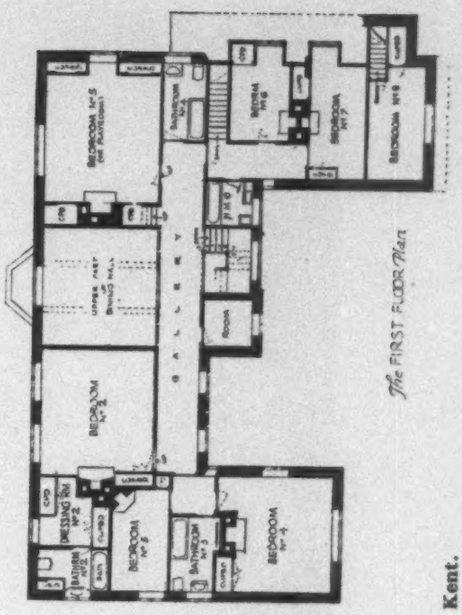
MR. OLIVER HILL, F.R.I.B.A., Architect.



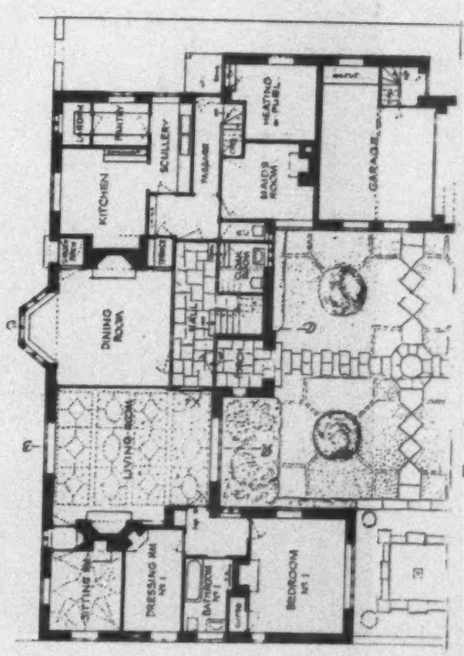
Proposed House at Sandwich Bay, Kent.
Messrs. Baillie Scott and Beresford, Architects.



Elevation from North-West.



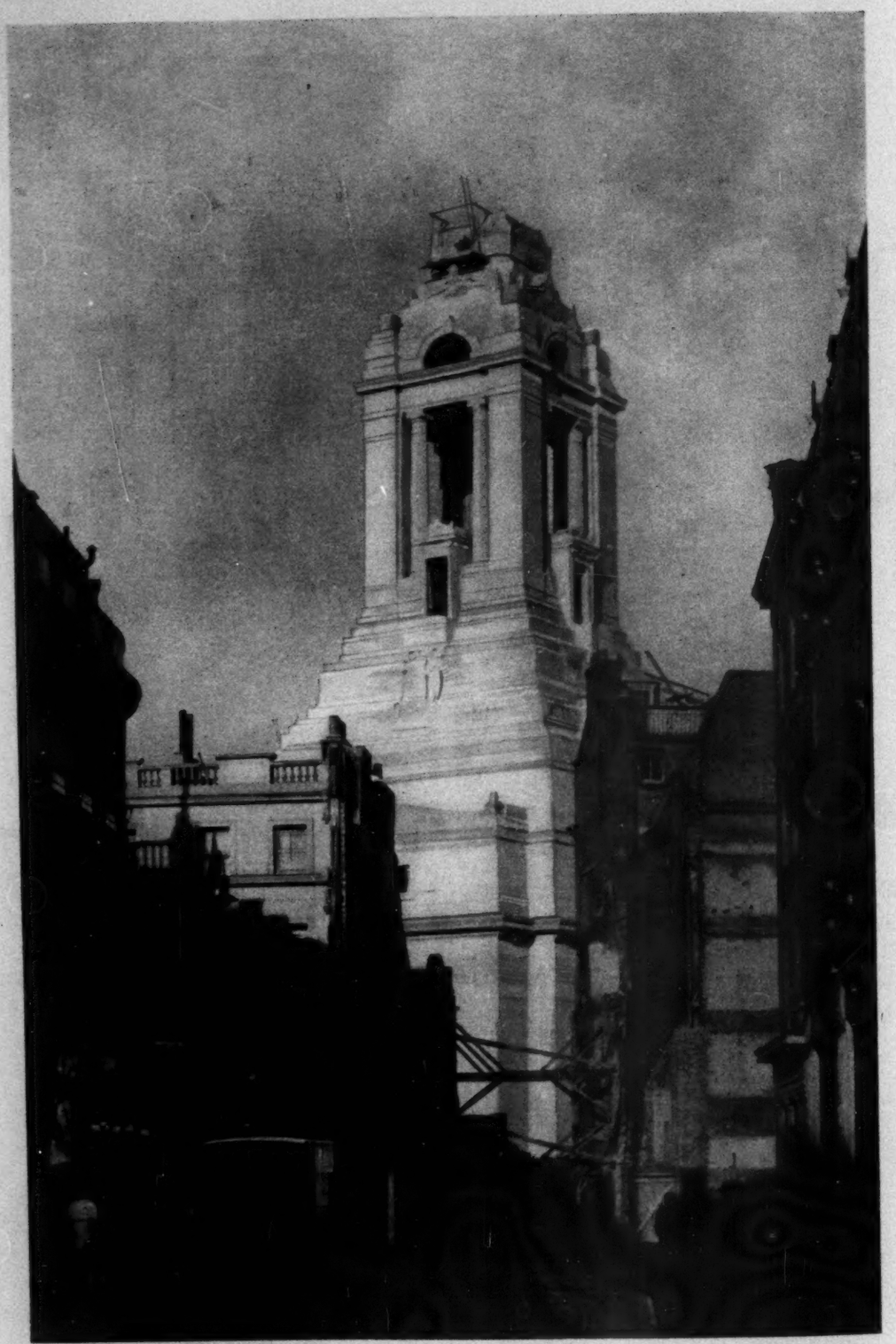
The First Floor Plan.



The Ground Floor Plan.

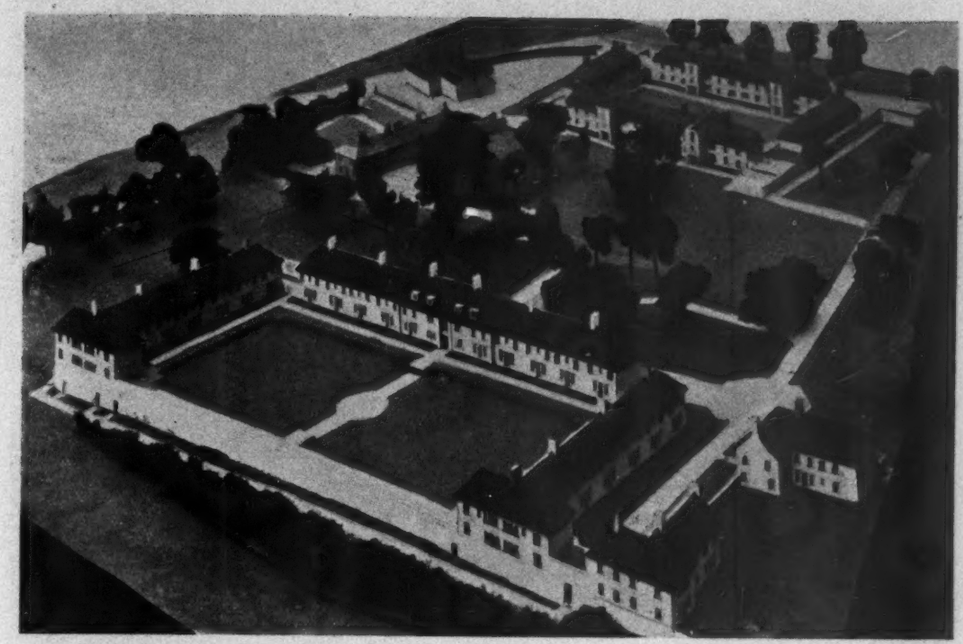
Proposed House at Sandwich Bay, Kent.

Messrs. Baillie Scott & Beresford, Architects.



The Masonic Peace Memorial Building, Great Queen Street, W.C.: View from Long Acre.

Messrs. H. V. Ashley & Winton Newman, FF.R.I.B.A., Architects.



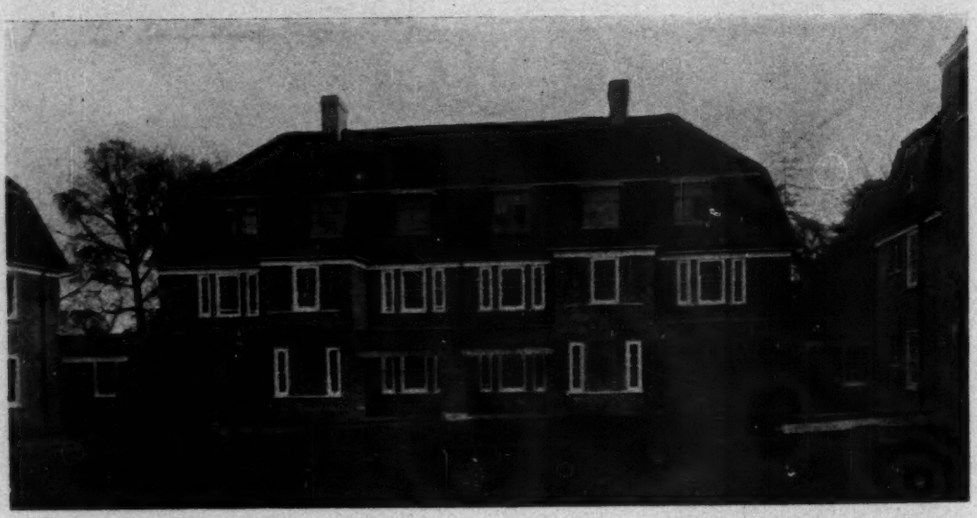
Model of Complete Scheme.

View of Estate from Road.

Housing Scheme for the Housing Association for Officers' Families, Morden.

Mr. P. Morley Horder, Architect.

Hill Top.



Part of the Sanctuary.

View showing Hill Top and the Sanctuary.

Housing Scheme for the Housing Association for Officers' Families, Morden.

Mr. P. Morley Horder, Architect.

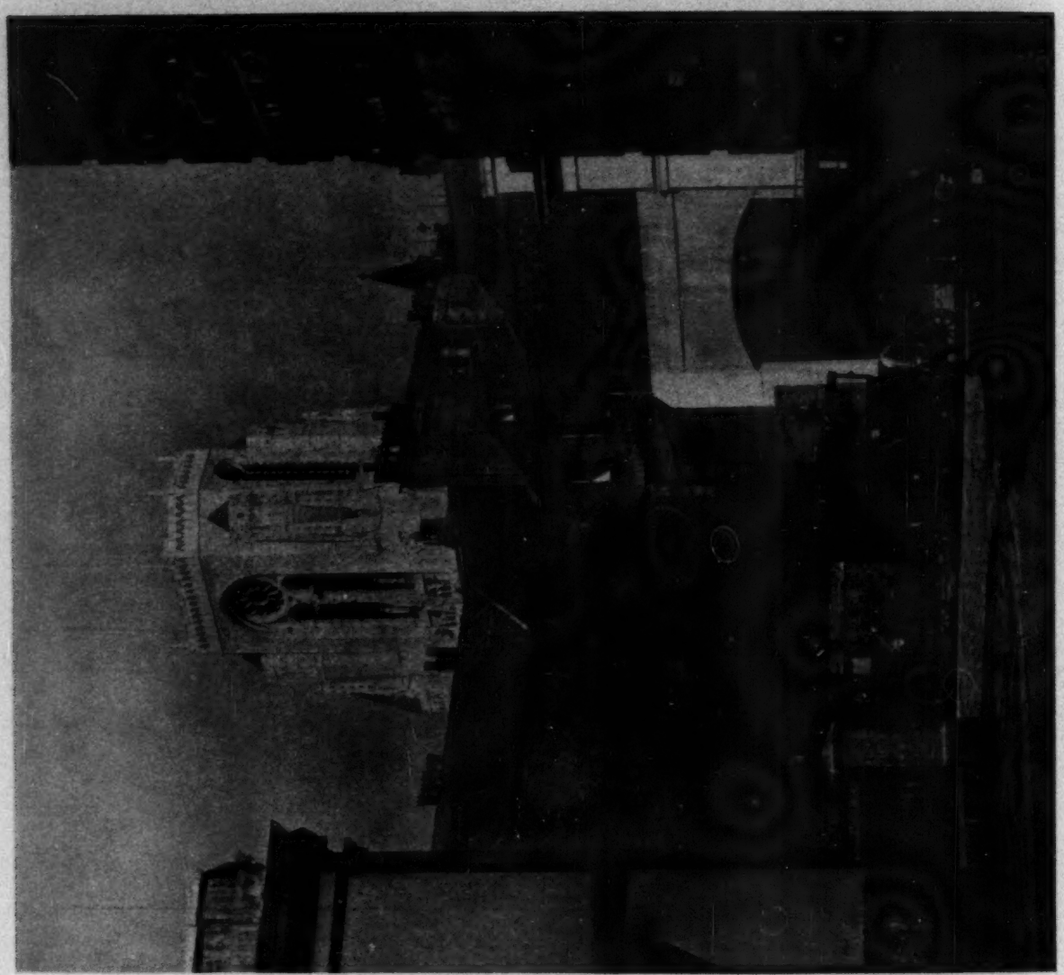
VIEW OF THE SANCTUARY

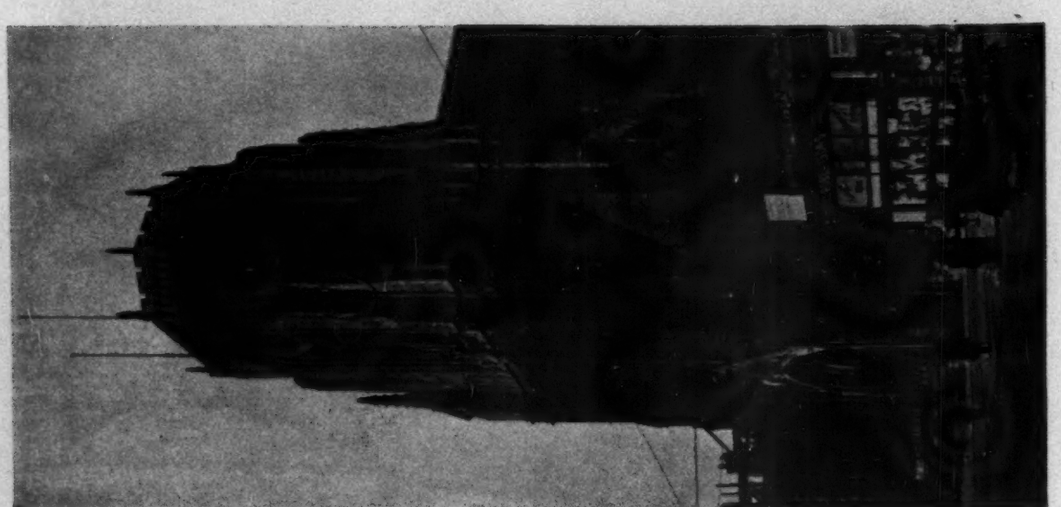
NORTH FRONT OF SOUTH CLOSE.

SANCTUARY : SOUTH FRONT

Housing Scheme for the Housing Association for Officers' Families, Morden.

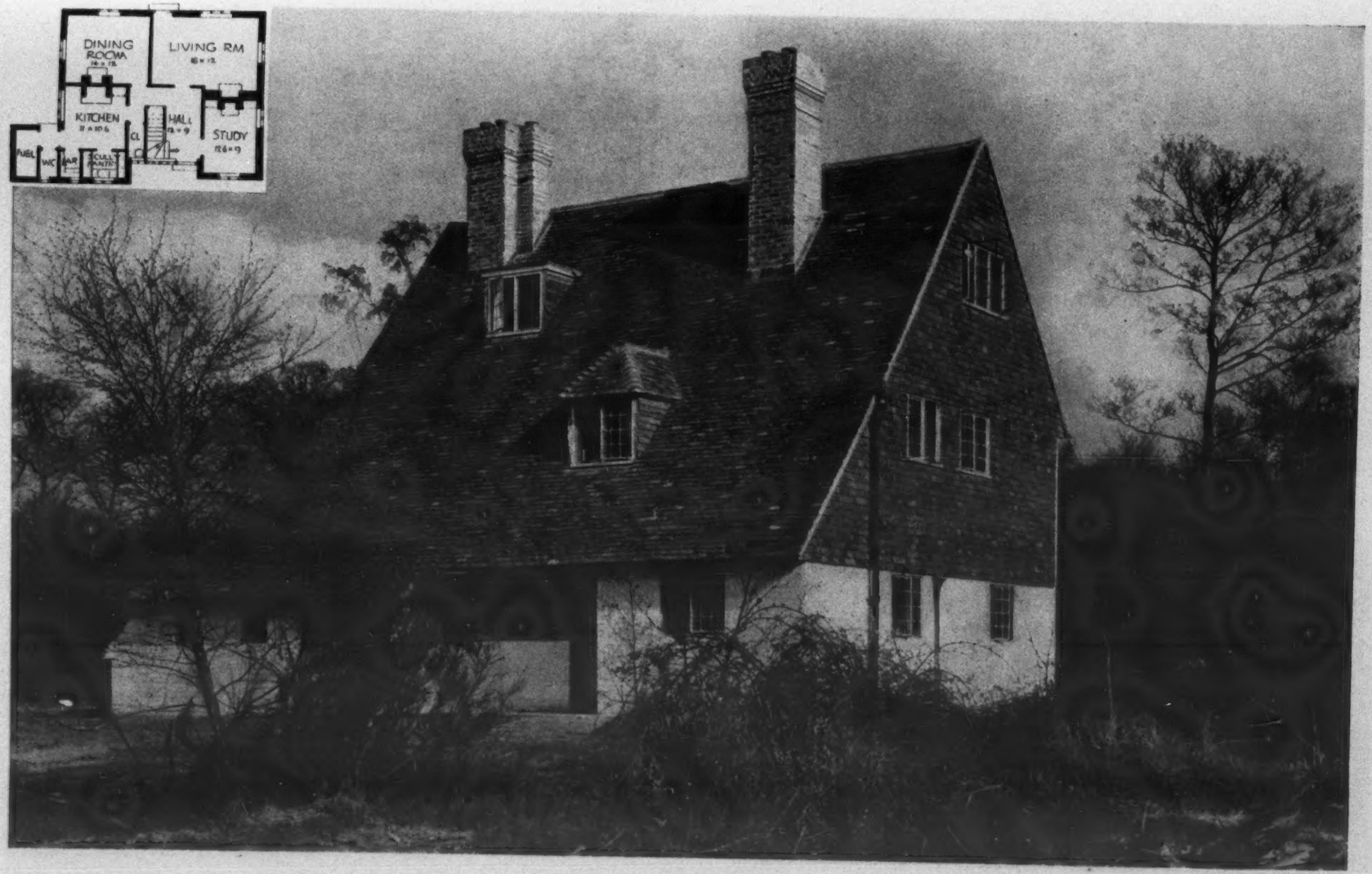
MR. P. MORLEY HORDER, Architect.





Church of the Holy Name, Manchester: Completion of Tower.
Mr. A. Gilbert Scott, F.R.I.B.A., Architect.

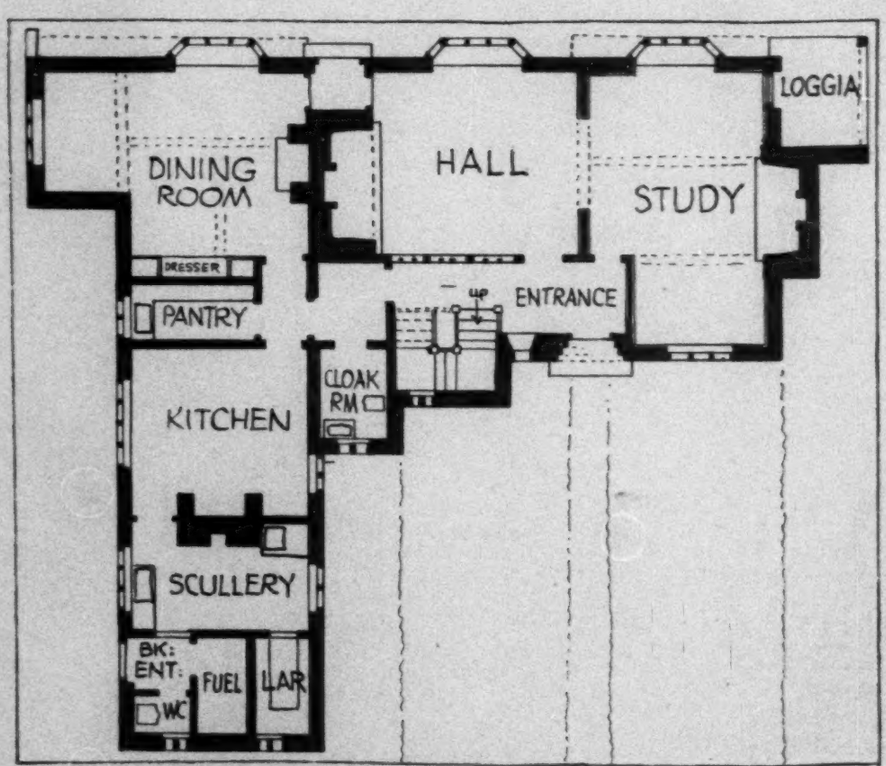
Mr. A. Gilbert Scott, F.R.I.B.A., Architect.



Cottage at Walton-on-Thames.

Messrs. Baillie Scott and Beresford, Architects.

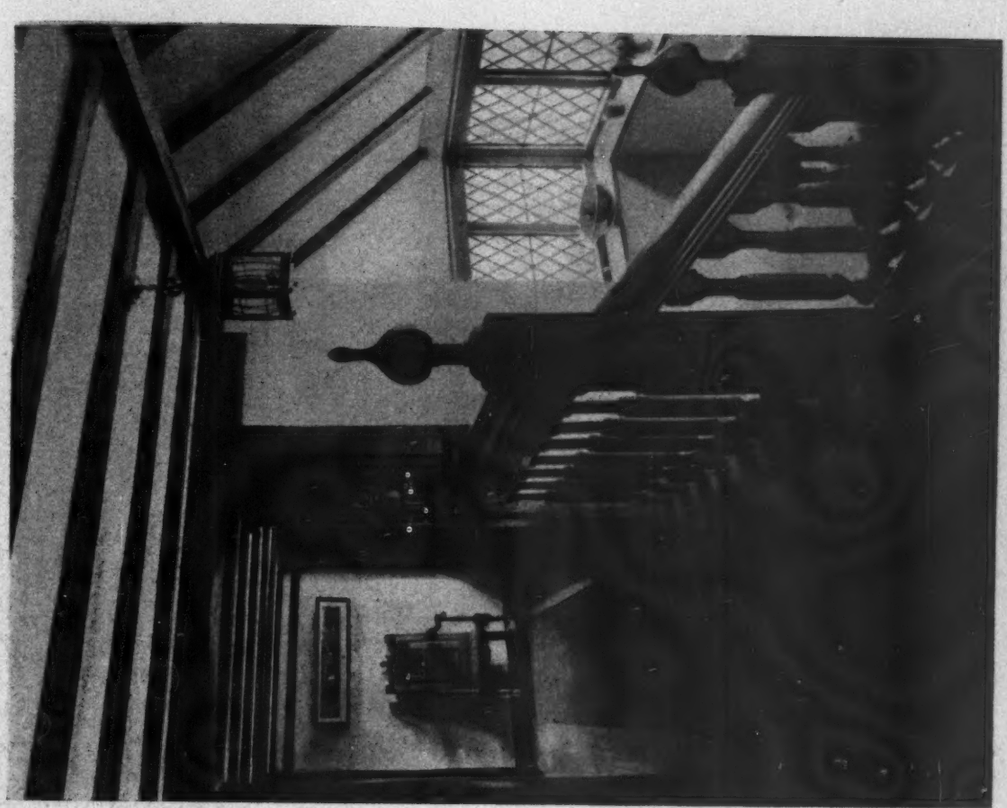
North Front.



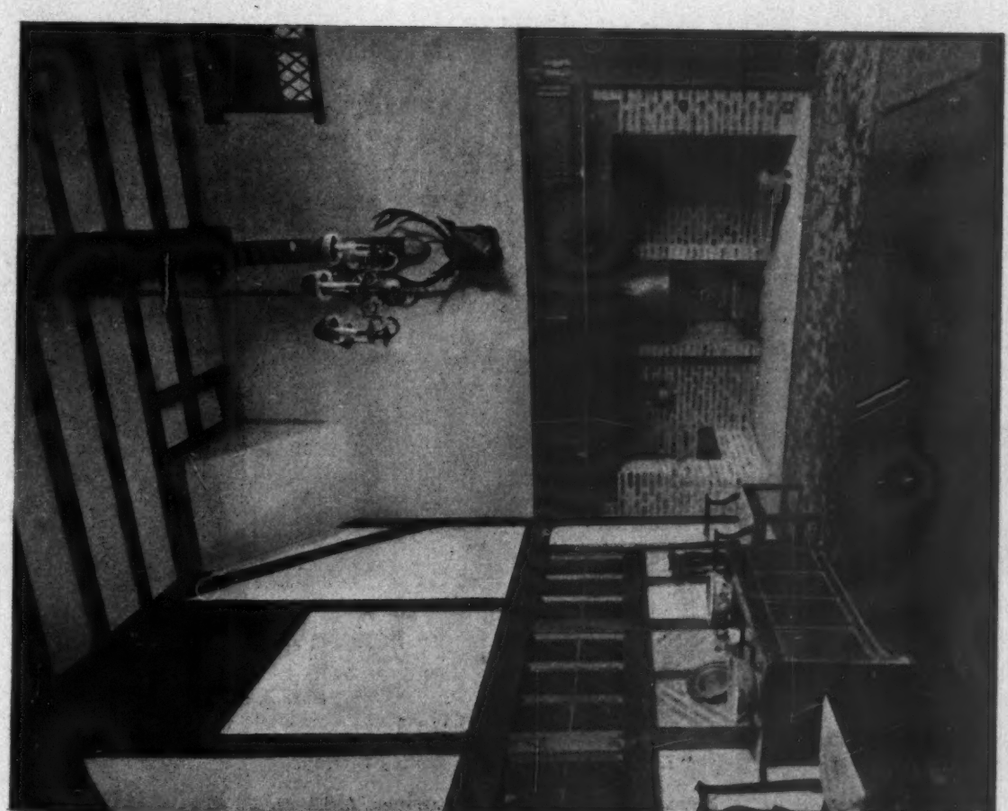
Ground-Floor Plan.

"Trunch," Saltwood-in-Hythe, Kent.

Messrs. Baillie Scott and Beresford, Architects.



THE LANDING.

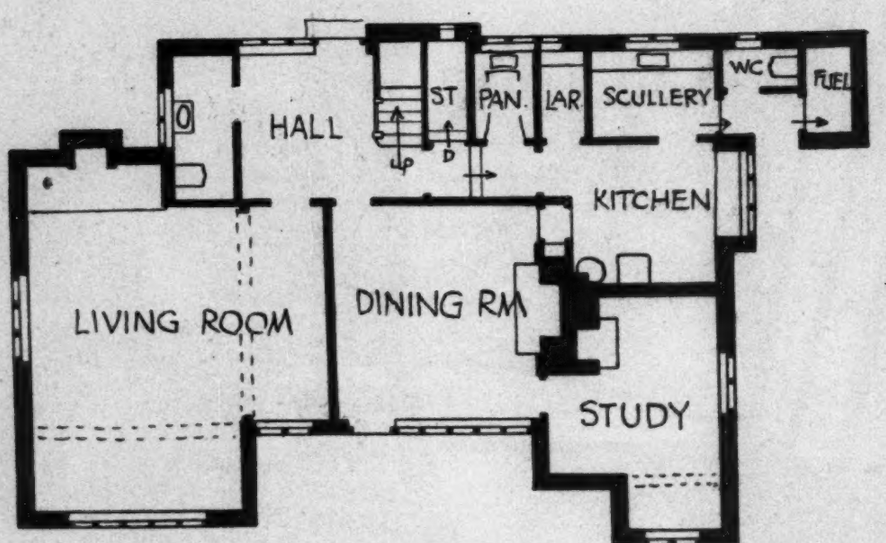


THE HALL.

"Trunch," Saltwood-in-Hythe, Kent.

MESSRS. BAILLIE SCOTT AND BEBERFORD, Architects.

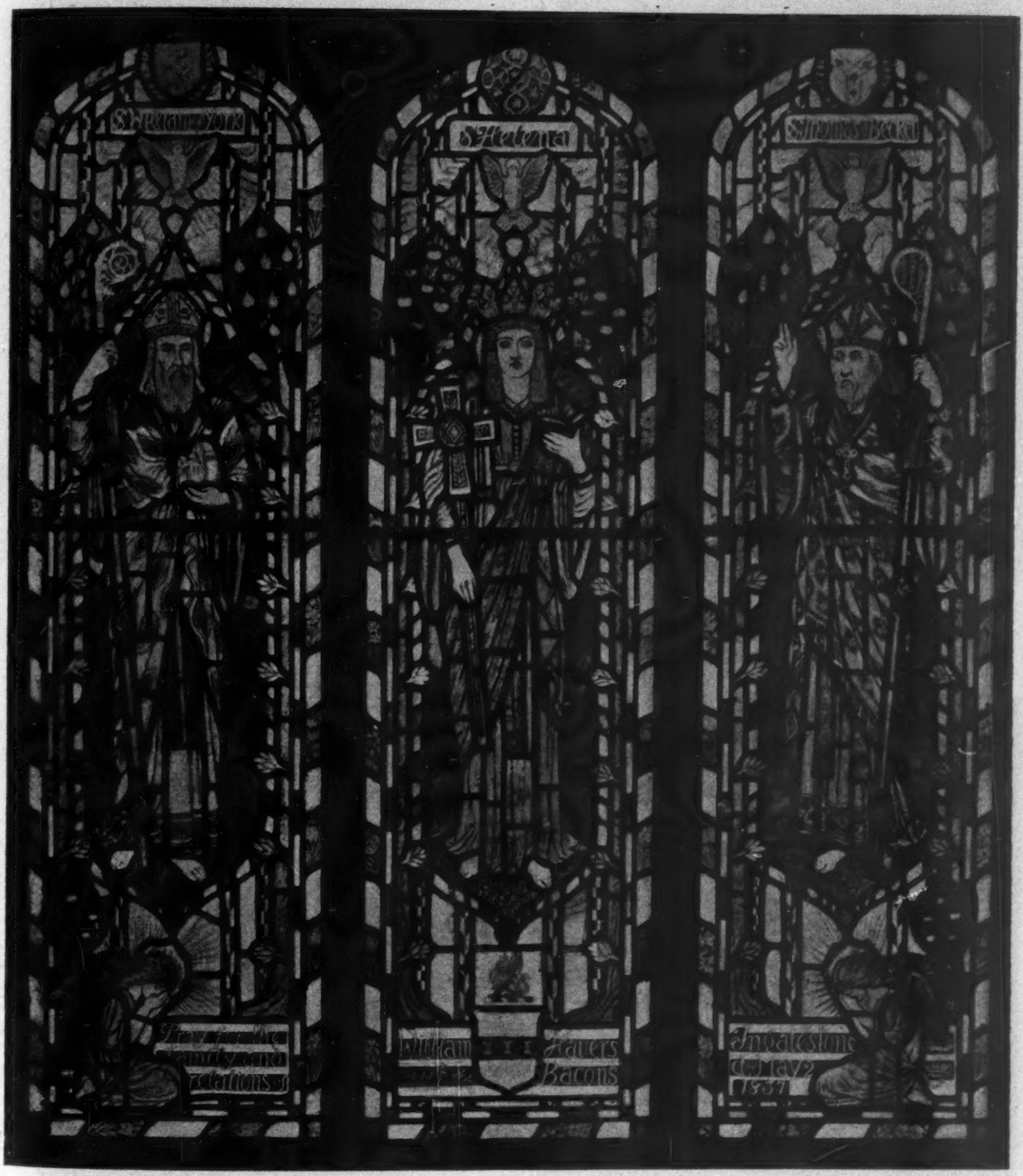
Garden Front.



Ground-Floor Plan.

"Kirkby Underwood," Esher, Surrey.

Messrs. Baillie Scott and Beresford, Architects.



Stained Glass Window for the New Catholic Church, Ingatestone, Essex.

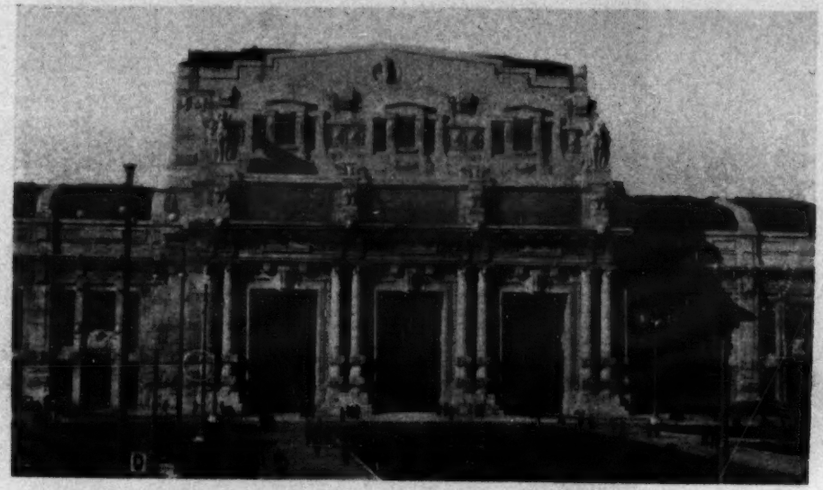
By Mr. Reginald Hallward. Mr. Frank Sherrin, Architect.

Left Side Elevation.

Right Side Elevation.

Fotografia Traldi, Milano.

Vista of Main Entrance, via Vittor Pisani.



Detail of Main Entrance.

The New Central Station, Milan.

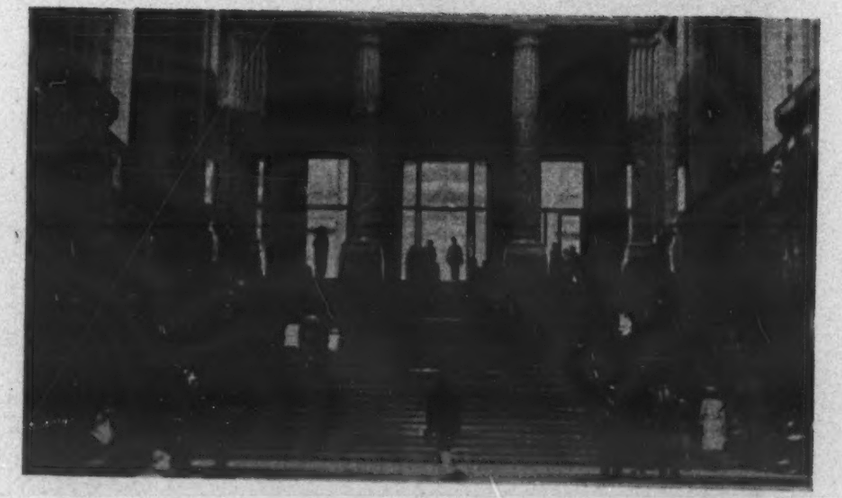
Signor Stacchini, "Architect and Builder."

HALL FOR VEHICLES.

ENTRANCE HALL.

Fotografia Traldi, Milano.

BOOKING HALL.



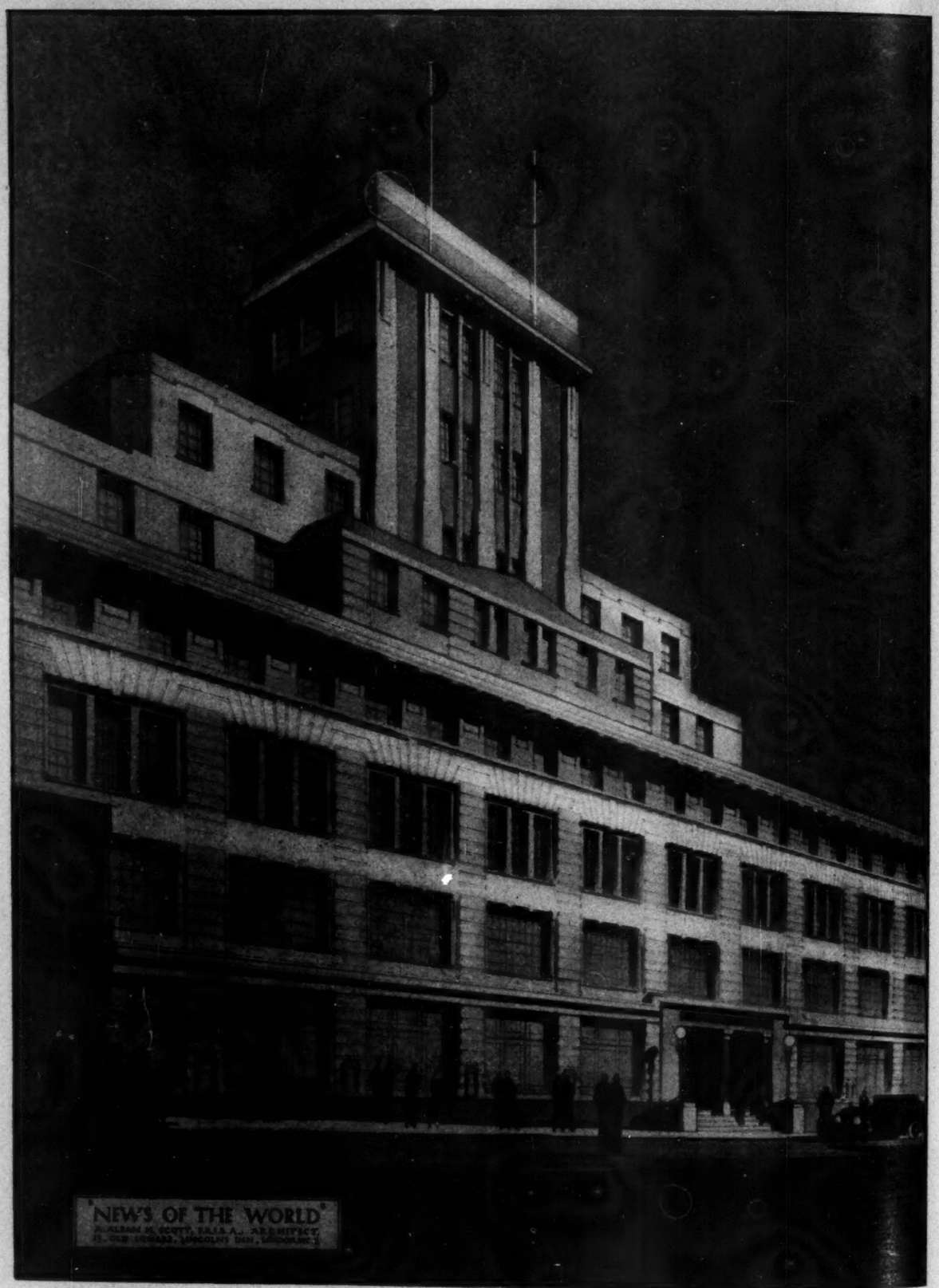
MAIN STAIRCASE.

The New Central Station, Milan.

SIGNOR STACCHINI, "Architect and Builder."

The New Central Station, Milan.

SIGNOR STACCHINI, "Architect and Builder."



"The News of the World" Building, Bouverie Street, E.C.

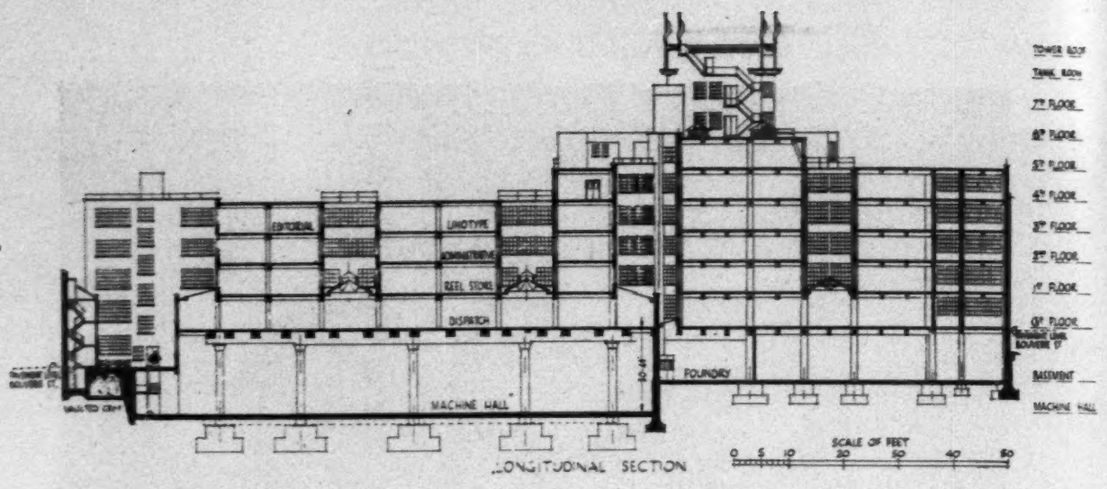
Mr. A. Alban H. Scott, F.R.I.B.A., Architect.

MAIN ENTRANCE HALL.

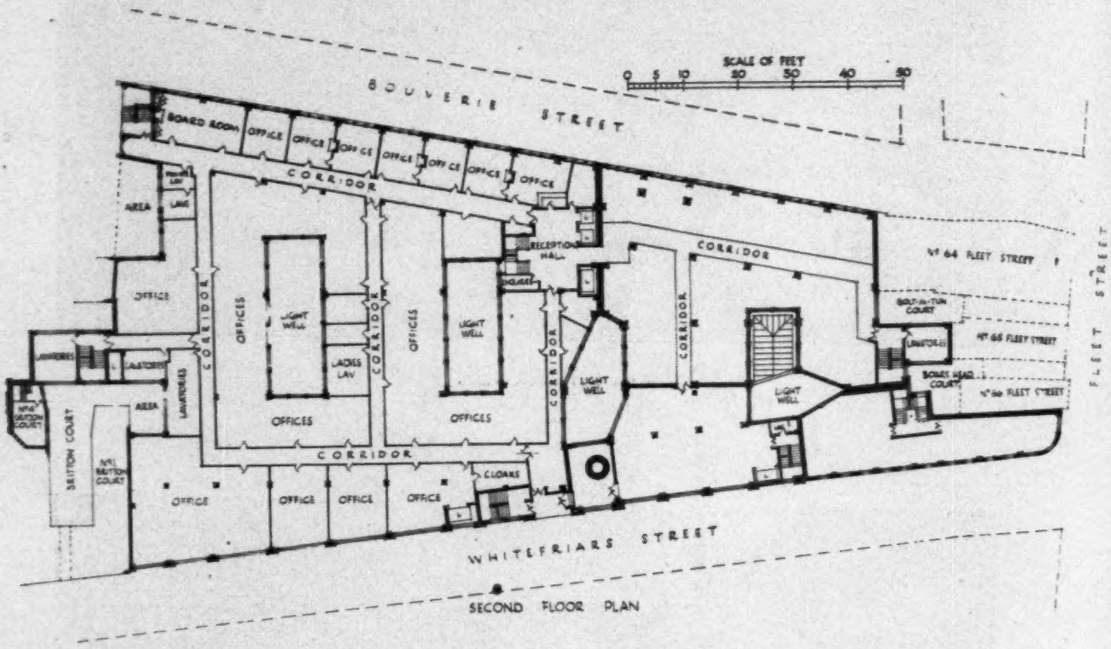
ENTRANCE VESTIBULE.

"The News of the World" Building, Bouverie Street, E.C.

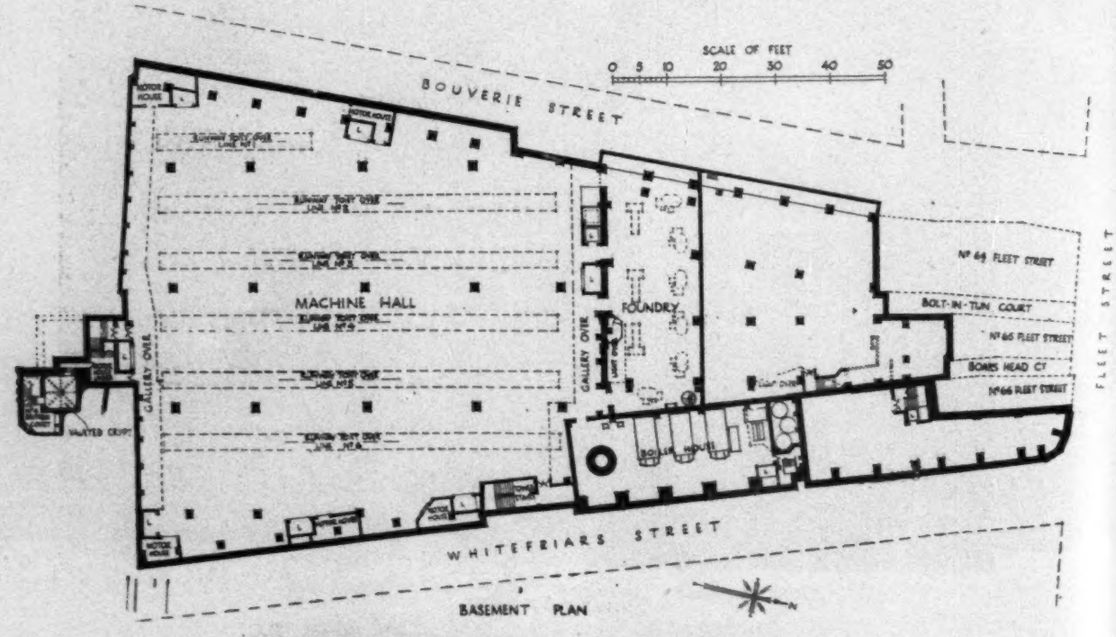
MR. A. ALBAN H. SCOTT, F.R.I.B.A., Architect.



LONGITUDINAL SECTION



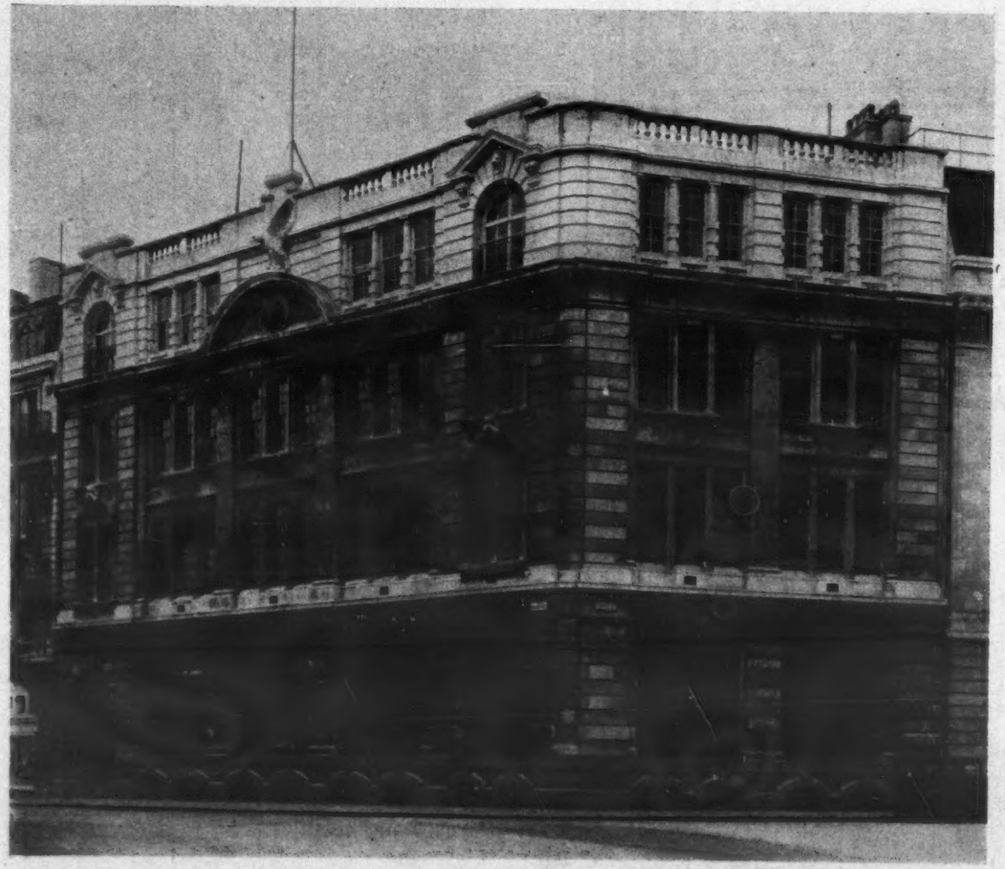
SECOND FLOOR PLAN



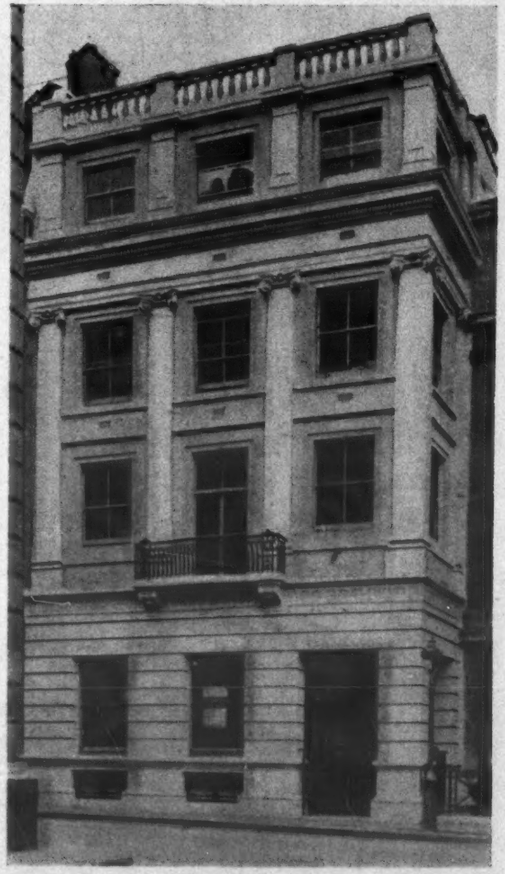
BASEMENT PLAN

"The News of the World" Building, Bouverie Street, E.C.

Mr. A. Alban H. Scott, F.R.I.B.A., Architect.



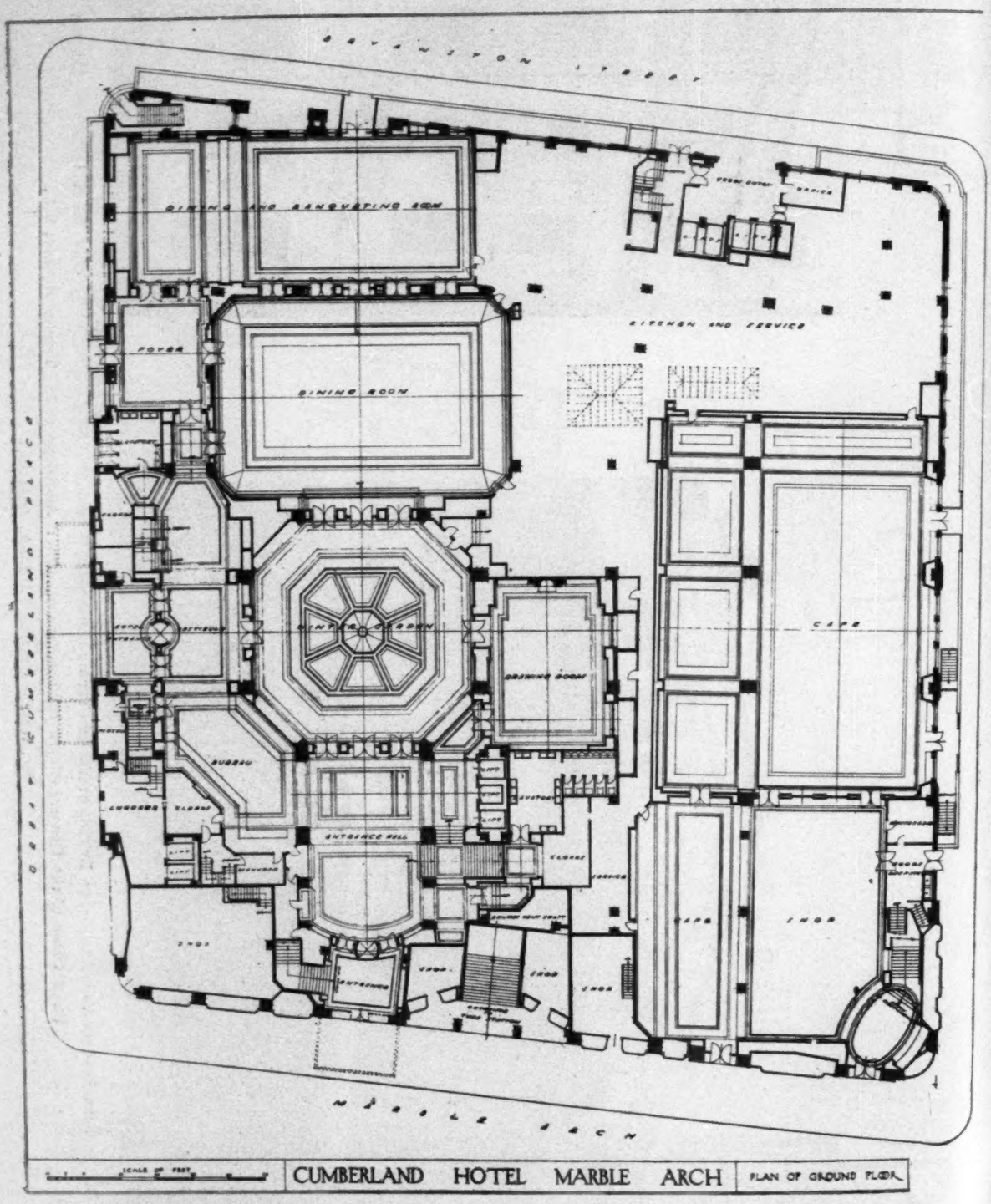
Old Building, Showing Additional Story, Byward Street and Trinity Square.



New Rear Front to Muscovy Street.

Chief Office of the General Steam Navigation Co., Ltd.: Additions to 15, Trinity Square, E.C.

Mr. Alfred Roberts, F.R.I.B.A., Architect.



CUMBERLAND HOTEL MARBLE ARCH — PLAN OF GROUND FLOOR

Mr. Frederick J. Wills, F.R.i.B.A., Architect.

THE "NEWS OF THE WORLD" BUILDING

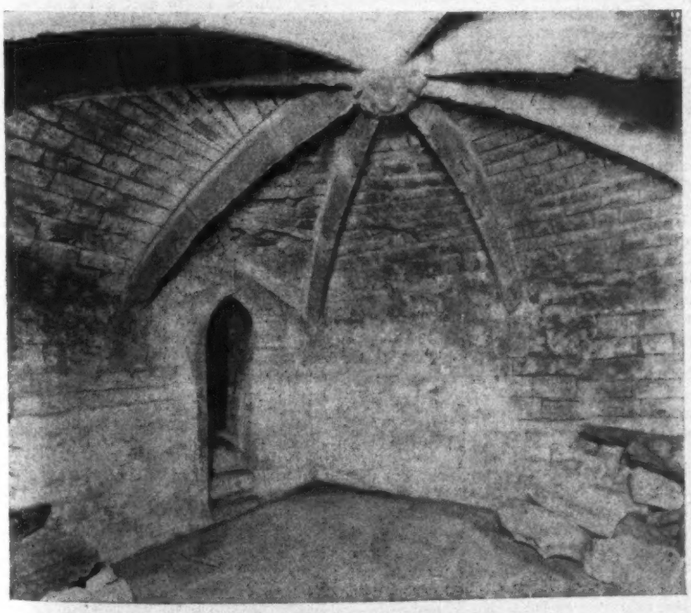
REVIEWED BY L. W. THORNTON WHITE.

To the south of Fleet-street, and near its centre, once stood a Priory devoted to the Carmelites or Whitefriars, little of which now remains. On this historic site, and modestly designated Number Thirty, Bouverie-street, now stands one of the largest buildings in the City of London, designed by Mr. A. Alban H. Scott, F.R.I.B.A. It is a remarkable building, conceived, constructed, and used for one purpose—that of supplying four million copies of a popular newspaper once a week.

The site has long frontages to Bouverie-street and Whitefriars-street and a small frontage to Fleet-street. The immediate needs of the *News of the World* are housed in the southern, larger, half of the building, while the northern half is planned as let-table office space. This is an excellent arrangement, for it ensures readily available space for conversion to newspaper use when extension is necessary. The small wing of the building at the angle of Fleet-street and Whitefriars-street has been built as a self-contained unit and leased as offices.

The building has a deep basement, ground and four upper floors, and there are three more floors and a tank room in a large tower over the northern half of the building. A commendable general arrangement of the numerous departments constituting a newspaper organisation has been maintained. Briefly, news enters the building by telephone and telegraph under the roof, is edited and composed on the upper floors, printed in the basement, and rapidly packed and despatched from the ground-floor level. The single purpose of the building has had a marked effect on the planning, and one finds a spaciousness and sense of unhurried movement (except at the week-end!) little associated with the normal rush of newspaper life. The main entrance is in Bouverie-street, stairs and lifts leading to a reception hall on each floor, which in turn give access to the newspaper departments to the south and the lettable offices to the north. The main administration is planned on the second floor, away from the major noises of the printing presses and of the surrounding streets. On this floor the boardroom, directors' and managers' offices form a suite on the Bouverie-street front, where they are in immediate touch with the secretarial, circulation, advertising, publishing, accounting, insurance, and auditing offices. Almost the whole of the Whitefriars-street frontage on this floor is taken up by the "competitions" department. Some idea of the development of newspaper competition work is here apparent, for this department occupies a floor area nearly equal to that of the editorial department—an almost alarming advance from the days when newspaper competitions were conducted from an odd table among the matchboarded gloom of some sub-editors' room.

The third floor houses the Editorial department; the Editor's room, interview rooms, the library and file room and senior artist's room overlook Bouverie-street, and the main editorial and artists' rooms open on to internal lighting courts across the corridor. There is a small kitchen provided, with a well-arranged lift serving through a concealed door in the panelling of the boardroom below. The entire Whitefriars-street half of the third floor is occupied by the linotype department. This is planned for the most part as one long room, with the shaft-driven linotypes at the south end and the make-up trollies and tables, stereo mangle, etc., leading in natural sequence up to the north end of the room, where a chute is arranged to deliver the impressed flong direct to the basement foundry. I noticed that the number of make-up tables and trollies is unusually small in relation to the number of linotypes—the absence of daily and special editions has much simplified the lay-out. The linotype room is top-lighted, in accordance with modern practice, and a special extract system of ducts installed, trapping the deadly lead fumes immediately over the individual metal pots. The acoustics of the room have been studied, and the ceiling made absorbent by the use of special lining. A separate foreman's office is well arranged near the centre of the department. Proof readers are accommodated in an enclosed compartment immediately next the linotypes, and are connected to the editorial rooms by means of pneumatic tube conveyors. Nearby are the process rooms, very small indeed, but ample for the preparation of illustrations throughout an almost leisurely week. For the preparation of posters, contents bills, etc., a flat-bed printing department is provided next the linotype room. It is interesting to note here that flat-bed printing has been linked with the linotype department, for in many newspaper buildings it is planned as an annexe to the main machine hall.



Vaulted Crypt under Britton Court.

Following the flong down its special chute, we find ourselves in the foundry, planned at basement level and disconnected by fireproof wall and doors from the machine-room, in accordance with modern opinion. The foundry is designed to accommodate six autoplates, as well as the autoshavers necessary to bore and true the cast stereo metal plates to fit exactly the rollers of the presses. In addition to the special ventilation required for the autoplates, feed and extract ducts have been brought down from the main roof level to ensure a very efficient twenty changes of air per hour. In a mezzanine above the foundry, and available from it, is a well-fitted canteen for the men working throughout day and night at the week-end. The foundry has been given its own switch gallery, from which its electrical activities are controlled.

The machine hall, the largest and most important section of the "works" departments, is immediately next to the foundry, and occupies most of the basement. It is planned to accommodate six lines of presses of the modern line-unit type. The output of these machines is enormous, those at present installed being capable of turning out 36,000 copies per press unit of a 24-page newspaper in an hour—or of printing simultaneously 33 sixteen-page, or 22 twenty-four page newspapers. The hall is floored at the foundry (and main machine) level with chequer plates carried on a light steel substructure. Below this the hall extends downwards for another eleven feet to house the Witton-James roll stand equipment. This system of reel feed is a highly-efficient development of recent years, and from a continuously renewable magazine of three reels supplies paper without interruption to individual presses above. Seven large goods lifts conveniently placed around the machine hall deliver the large reels from the first-floor paper store.

At the north and south ends of the machine hall are galleries housing the switch gear controlling the presses, etc. Two sources of supply being available—Charing Cross and City of London—no private generating plant as a stand-by has been installed. Part of the northern gallery has been retained for visitors, and is served by passenger lift from the main entrance hall. From this gallery most impressive vistas of the presses working at high speed are obtainable, and one realises the just pride with which a newspaper organisation regards its machine hall. Ink storage tanks and ink roller racks are planned in the recesses beneath the Bouverie-street pavement lights.

The presses deliver the completed newspapers through trap doors in the machine hall ceiling to the packing and dispatch departments at ground-floor level. This department is equipped with an extensive band conveyor system, finishing in chutes delivering over the pavements of the two streets, into awaiting vans. The chutes are designed to fold back into the building, and the large windows through which they operate are hinged and geared to open as outside canopies protecting the newspapers in inclement weather. At the north end of this floor is a suite of offices for the supervisors of the various works departments. The paper reel store previously mentioned occupies the whole of the first floor. Runway hoists pick up the reels from lorries, and fold back inside the building when not in use, special sliding windows being arranged for this purpose. On the small fourth floor is additional office accommodation, while the smaller fifth floor contains the main telephone exchange and battery rooms. Over the northern portion of the building the tower rises 120 ft. above the pavement. Special permission was granted by the L.C.C. for this tower, which contains two floors of office accommodation and a special tank room containing the 15,000 gallons of water necessary to serve the heating plant, foundry and sprinklers. The subdivision of so complicated a building by the firewalls and double steel roller shutters required by the L.C.C. has been very skilfully managed. Staircases are arranged to serve all the works departments, in addition to those serving the offices, and a special

escape staircase on the Whitefriars-street front planned with access through the open air at each floor level.

Construction.

The great divergence in size between the "works" and "offices" units of a newspaper building introduces many constructional difficulties. In the case of the "News of the World" building, the problem was further complicated by the presence of four freehold boundaries within the site, the lines of which needed preserving in the reconstruction. A steel-framed structure has been adopted. The lay-out of presses in the machine hall called for as few stanchions as possible at basement level, and the positions of those few were fixed within narrow limits by the machine sizes. The problem is akin to that of a first-class modern hotel, like the Dorchester Hotel in Park-lane, where small bedroom units are superimposed over large public rooms. The constructional problem of this newspaper building is solved in steel on much the same principle as the Dorchester was solved in reinforced concrete—by bridging over the widely spaced lower stanchions by a series of exceptionally heavy girders to carry the stanchions of the superstructure, the latter being spaced with little regard to the positions of stanchions below.

These heavy ground-floor girders are at 40 ft. centres both ways, and weigh over 40 tons each. They are, of course, plate girders, all plates being rolled on the edges to save machining. Reinforced hollow tile floors are used throughout, specially strengthened in front of lifts, reel hoists, and similar positions where impact is likely.

The works departments are lined on walls and stanchion casings with glazed bricks and tiles, protected with steel shields on all external angles. The floor of the foundry is of chequer plates, level with those at the main machine hall level. Asphalt floors have been laid over the entire area of packing and despatch, and to the reel store on the first floor. The linotype room has a wood block floor, and there are special acid-proof tiles to the process rooms. The office quarters generally have Dolomont patent floors, with oak strip flooring in the main rooms and brightly coloured rubber along the corridors. The latter have dadoes finished with polished impervious material, with coved skirtings below and hardwood borrowed lights above, behind which concealed electric lighting is cunningly arranged. All the principal rooms are most interestingly finished in Empire timbers, and form a special quality of decoration. The timbers used include Indian Silver Greywood from the Andaman Islands, Laurel wood from Burma, Ebony from Ceylon, Patapsco or Bird's-eye Maple from Canada, English oak, Tasmanian oak (stringey bark), Tasmanian ash, Crabwood from British Guiana, Iroko from Nigeria and Gold Coast, and Black Bean from Australia.

The general equipment of the building is very thorough. Runways are arranged over all the presses, as well as over the gangways between them, for the ready removal and renewal of parts. The heating is by low-pressure steam, serving radiators and fed from three interchanging Davy-Paxman marine boilers fitted with Clyde oil-burners. The heating chamber in the basement also contains a special water-softening plant, oil pumps, etc., and is planned next a large fireproof and specially ventilated chamber containing three large oil tanks. A thorough system of fire prevention includes automatic fire alarms, hydrants, sprinklers throughout and drenchers to all windows above ground-floor. Among further equipment may be mentioned the vacuum letter-conveyors to various departments, internal telephones, electric clocks, and a complete vacuum cleaning plant.

The main elevation in Bouverie-street is faced in Portland stone moulded into quietly classic forms. Like its near neighbour, *Punch*, over the way, it is devoid of undignified advertisements, and I trust it will remain in that happy condition, for in a narrow street the building itself is a far better advertisement than a display of large lettering impossible to read as a whole. No review of the building would be complete without mention of a crypt of the old priory discovered beneath Britton-court. The chamber has a vaulted ceiling of chalk blocks on grey stone ribs finished in a carved central boss. With commendable interest this ancient relic has been acquired by the *News of the World*. It contains further interesting fragments unearthed during the excavations, and has been rendered conveniently accessible to the public.

[A list of firms engaged on the work appears in our pages devoted to Notes on Illustrations. —Ed.]

"THE BUILDER" DEBATE

XLVII.—ARCHITECTS AND CONTRACTS.

"That the general standard of efficiency in the administration of building contracts, by the architects of to-day, needs improvement."

Sir,—As a contractor I should be guilty of bad manners were I to make use of the present privileged occasion to ventilate individual grievances; and I would like to make it clear immediately that were I not convinced that the subject is of general interest rather than personal, I should not venture to suggest this as a subject of debate.

I have the highest respect for the architectural profession, and I recognise to the full that the architect has an essential contribution to make to building which can be obtained from no other source. It is for that very reason that I venture, with the best will in the world, to call attention to one or two slack reins which droop out of the controlling hands of the typical architect of to-day.

For instance, I am always filled with admiration at the expeditious way in which the average architect manœuvres events from the early stages of experiment to the full details of the contract, knowing the mass of detail, negotiation, tact and skill which have to be explored before events take that definite shape.

I should be still more admiring if I could see the same concentrated energy applied to subsequent stages of the job; but I fear that the typical case shows a distinct loss of interest following the contract stage. Contractors make superhuman efforts to get the job really started; and they try to see and plan as far ahead as possible; but there is a limit to what they can do in that direction, for without detailed instructions work cannot be put in hand.

Then, again, there is the question of instructions and orders. There are far too many verbal orders given and received with a contract which stipulates only written orders to count. It is true we as contractors could refuse to act except on a written order, but we all know that such action tends to imply a lack of trust in the architect, which a contractor is not anxious to suggest.

Should not architects, who are the administrators of the contract, see that the builder gets his written orders without putting him in the embarrassing position of having to ask for them? If they would do this there would be no suggestion that they prefer to take advantage of their position.

These are but a few ways in which I feel the architect administers a building contract in a slack manner; and if I am wrong in imagining that the average architect fails to appreciate the serious importance of a contract, I shall look to "Negative" to throw a fresh light upon the matter.

The majority of builders have suffered at the hands of unbusinesslike architects, who fail to understand that time is with the builder equivalent to money. It is quite understandable that an architect, having concentrated on a project and endured all the hopes and fears that accompany his time of suspense while awaiting the client's decision, should suffer a relaxation of energy. But with most building works there is a period of waiting while the plans are receiving consideration of the local authority and while copies are in the hands of the quantity surveyor that should provide for recovery.

The really surprising thing is that an architect who would be repentant were he unavoidably late for a social appointment will calmly ignore the urgent entreaties of a builder at his wits' end for a means of keeping the job going. In this there is not only a want of business ability but a positive lack of courtesy that detracts in a measure from the value of the architect's claim to respect.

Much of the trouble lies in the niggardly manner in which some architects dispense with a sufficient number of copies of plans. Many architects are largely dependant on the assistance of specialists and are therefore not in a position to issue definite instructions to the main contractor until the specialists have been dealt with and brought into line. Much of the preparations for the special work has, if this is to be economically undertaken, to be made known to the contractor in the early stages of the job, and this could be brought about more readily were copies of the plans distributed very soon after the contract is signed. When all copies had to be laboriously traced by hand, to limit the number of them to the barest minimum was understandable and even excusable, but now that black line prints are obtainable so cheaply it is another matter. One is, however, inclined to look a little deeper into the underlying causes for this dilatoriness and to suspect that one finds them in the fact that it is supposed that clients must be sought for in social circles. A well-known writer has recently stressed this point, and, while one may be amused by an architect who parades at the office in hunting kit, one may be alive to the realities without accepting this parody. Obviously an architect cannot be expected to devote all his time to the carrying out of a single commission and is justified in searching for others. He is not, however, justified in doing this at either his client's or the builder's expense.

It is likely to be urged that the builder is as much to blame as, if not more than, the architect. The short answer to that is the well-known fact that the architect is seldom in a position to enforce the penalty clause, which for all practical purposes may in most contracts be regarded as a dead letter. All that the builder need do under average circumstances is to put all his requests for details and instructions into writing, file copies and produce them if threatened.

Much ink has been used in urging the need for rationalisation of the building industry, and the present year is likely to emphasise the necessity for something of the sort. But rationalisation, to be effective, must begin at the beginning, namely, in the architect's office, and it is high time that we all put our back into an effort to restore prosperity.

Positive.

The Runnymede Entrances.

The National Trust has issued an explanation with respect to the cottages and kiosks which it was arranged should be erected to provide entrances to the land at Runnymede presented to the National Trust by Lady Fairhaven and her sons, Lord Fairhaven and Captain Henry Broughton. It seems advisable to explain, the National Trust states, that since then various occurrences have caused a certain amount of delay; there were legal and technical difficulties which were not easy to surmount, and the national financial crisis necessarily interfered with the progress of the work. It is satisfactory to note that, so far as can be foreseen, these difficulties have been overcome. [The designs for these buildings, prepared by Sir Edwin Lutyens, were given in our issue for June 26.—Ed.]

CAST STATUARY FOR GARDEN DECORATION

ALTHOUGH the manufacture of cast statuary and other stones for garden decoration is a specialist process calling for much skill and experience for the successful production of high-class stones of the more expensive variety, the cheaper varieties selling for two or three pounds each may well be made by a skilful plasterer after a little practice. The methods of manufacture closely follow ordinary plaster and gelatine moulding practice, the choice of material for the mould depending upon the shape of the stone to be made.

For moulding articles with a great deal of detail gelatine moulds are generally used as they may be made more quickly than plaster piece-moulds, because the pliable nature of the material allows it to be withdrawn from undercut portions, and there is thus no need to make the mould in many small pieces as is the case when a rigid material such as plaster is used. Its pliable nature, however, prevents the production of many exact replicas in the same gelatine mould, because the material shrinks a little and gets slightly out of shape each time it is pulled away from the casting. If there is a considerable amount of detail, a gelatine mould will not usually produce more than three or four good casts before it has to be discarded although more replicas may be obtained if the casts are fairly plain.

When they are required for use the sheets of gelatine should be soaked in water until they are soft, pliable and swollen. To heat the gelatine to a solution it is necessary to use a water-jacketed pan. The gelatine is placed in the inner vessel while the water in the jacket is cold, and the pan is then heated until the gelatine is thin enough to pour; it should be kept at a gentle heat until all the gelatine has dissolved, and it reaches a thin consistency. While it is heating the material must be frequently stirred to keep it free from lumps, and when all the gelatine is melted it should be allowed to stand for a while until cool. The gelatine is cool enough for use when the back of the hand can be held without discomfort against the outside of the container, or if a greased finger can be held in the gelatine without discomfort.

The model may be of any material with sufficient rigidity to withstand the pressure of the gelatine when it is poured, but clay is generally used if a model is specially made for the purpose. To prevent the gelatine from adhering to the model, the latter should be covered with linseed oil applied with a fine camel-hair brush, and then dusted lightly with French chalk.

The method of making a gelatine mould is clearly shown in the accompanying illustrations and the following notes, which demonstrate the reproduction in cast stone of a common type of garden ornament.

The first stage in the process is to form a space between the model and a rigid outer case into which gelatine can be poured so that when it sets it will completely cover the model, and thus form a mould which, when filled with concrete, will produce an article of the same shape as the model. Clay is used to form this space. The clay must be well beaten and worked until it is plastic, and then rolled to a thickness of about ¼ in., which will be the thickness of the gelatine mould. The clay is cut into pieces of a maximum size of about 4 in. square, smaller pieces being used where necessary due to the shape of the model. These pieces of clay are pressed close to the model until it is completely covered, each piece of clay closely butting against those in juxtaposition to it. Next, roll out a strip of clay about 1 in. thick and place it around the base; this will form a thicker lip around the bottom of the mould which will hold the gelatine in position in the case when it is turned upside down for filling. A pouring hole at the top must be provided by adding a peak of clay at the top. If the model is of such shape or size that more than one pouring hole is necessary, peaks of clay are formed wherever provision has to be made for placing a funnel. These clay peaks must be a little larger in diameter than the funnels to be used and high enough to form apertures through the plaster, or a clay funnel may be used as described later. Arrangements must also be made for forming the plaster case in sections, and this is best done by rolling out pieces of clay and adding them where the first section of the plaster jacket is to finish. Another method is to cut strips of thin sheet zinc roughly to the shape of the model and press them into the clay so that they project 1½ in. or so.

The model used as an illustration, a garden figure about 18 in. high, is shown in Fig. 1 while it is being covered with clay. The lower part of the model has been covered with clay to a minimum thickness of ¼ in.; a ridge of clay, projecting about 1 in., has been placed around the base to form a lip on the gelatine mould; further ridges of clay have been partly placed up the left-hand edge and over the foot to act as finishing edges or screeds to the first section of the plaster jacket; and pieces of clay are placed on the left-hand ridge to form joggles. This process is continued until the whole of that part of the model to correspond with a withdrawable section of the plaster case has been formed, with the ridges completed and joggles formed where necessary, and a clay peak formed at the top of the model so as to leave a pouring hole through the plaster case.

FIG. 1.

Plaster is then splashed over this part to form a joint against the vertical clay ridges, but carried right down to the bench top so as to cover the ridge around the base. When the plaster is hard, remove the vertical clay ridges and the clay blocking pieces to form the joggles, give the edges of the plaster two coats of shellac, and then apply clay and plaster to form another section in the same way as before. About 1¾ in. is a suitable thickness for the plaster case.

When the complete case is hard, remove it by easing the sections apart with a knife blade. Then remove the clay from the model and the case, carefully removing it from the detail, give both the model and the inside of the case two coats of shellac, and well grease them. A few holes must be bored through the case at suitable points to allow for the escape of air when the gelatine is poured.

We now have a plaster case with inside dimensions ¼ in. or more larger than the model in all directions, in three sections. This is clearly shown in Fig. 2, which shows the plaster case and clay lining after one section has been removed; it will be seen that when all the clay has been removed there will be a pouring space between the model and the plaster case which will later be occupied with gelatine.

The case is then placed over the model, taking care that the latter is central and that it has been carefully cleaned and greased. The case is sealed to the bench top by a ledge of clay, the three sections tied together with strips of canvas dipped in plaster or by other means, with the joints in the case sealed with clay if there is any possibility of leakage. A funnel with a large top should be used, as the weight of gelatine in the funnel will help to force the material into the detail of the mould when it is poured. The work at this stage is shown in Fig. 3, although in this illustration a simple funnel is shown formed of a piece of clay mounted around the pouring hole; this is shown as a makeshift arrangement, but a zinc funnel is recommended. The small holes through the case will assist air to escape

FIG. 2.

FIG. 3

from the space between the model and the case when the gelatine is poured.

The mould is now ready for pouring the gelatine. Put the hot gelatine into a well-greased hand-bowl with a pouring lip, and pour it as quickly as it will run through the funnel into the mould. As the gelatine rises between the mould and the case it will show through the air vents, which must be sealed with clay as the pouring proceeds. It is desirable to keep the funnel full during the whole of the time the gelatine is being poured, and when the mould will contain no more to leave the funnel full while the material is cooling.

After about eight hours the gelatine should be cold and sufficiently set to permit removal of the case; the funnels are first taken out, or broken away if of clay, the gelatine cut flush with the top of the case, and the case eased away from the bench. The canvas strips or other method of securing the sections of the case are then unfastened and the case removed.

Having released the case, dust the gelatine with French chalk and wipe it over to remove any oil, and then dust it again with French chalk. The inner faces of the case should be cleaned and greased. Then use a knife to cut the gelatine through in sections corresponding with the sections of the case, carefully remove the gelatine from the model, and place the sections within their respective portions of the plaster case. When the gelatine mould is in the case its inner face must be thoroughly cleaned by dusting it with French chalk and brushing it with a soft brush to remove all traces of grease. Next the face of the mould is hardened, or "cured," by thorough washing with alum water, made in the proportion of two teaspoonsful of alum to a cup of water. The mould should not be used immediately, but allowed to stand for at least twelve hours. This treatment of the face of the mould prevents the gelatine being harmed by contact with the water in the concrete and thus prolongs its life.

Each time before use the mould should be cleaned and greased. A good grease for the purpose is made of a mixture of Russian tallow and paraffin in the proportions of 3 lb. of tallow to a gallon of paraffin. The greasing must be very thoroughly done, for it is essential to prevent wet concrete coming in contact with the gelatine as damp will destroy the elastic nature of the material and ruin the mould. For a mould and figure of this shape it would be best to pour the concrete through the bottom of the mould, so it is necessary to plug with plaster the hole through which the gelatine was poured. A rough box is then made to hold the mould upside down. The plaster case, containing the gelatine, is erected on the bench and the sections fastened together with strips of canvas soaked in plaster. The assembled mould is placed securely in an upside down position within the wood box, or held vertically by other simple means, and is then ready for pouring the concrete. As the concrete is slowly poured into the mould it must be thoroughly stirred with a stick or metal rod in order to push the material into the detail of the mould, and, at the same time, release any entrapped air that would otherwise form small holes on the face or in the body of the casting. Care must be taken not to damage the mould when using the rod. When the concrete reaches the top of the mould the surplus water should be scooped from the top or mopped up with a piece of rag, and more concrete added.

The mould must remain in place until the concrete is hard, which will normally be about 24 hours after placing the concrete.

Only very fine aggregate should be used with gelatine moulds, due to the risk of damage to the mould if large and sharp pieces of stone are included, and also because of the difficulty of proper consolidation if large stones are used. The mix must be very fluid in order to allow the concrete to flow to the bottom of the mould and into all the details with no other means of consolidation than stirring and stabbing with a stick. At the same time, it should not be wetter than is necessary to ensure sufficient flowability, as the more water is added the weaker the concrete will be. It is a good plan to use a stiffer mix for the upper portion of the stone, as this will absorb some of the water from the wetter concrete already placed.

When gelatine moulds are worn out, or no longer required, they can be melted down and used again. After first washing the old mould to remove dust, oil, etc., it should be cut into about 1-in. cubes, placed in the steam-jacketed pan without the addition of water, and slowly melted. New gelatine of the same grade can be added to freshen up the old. If left unused for a few days the gelatine will shrink.

We are indebted to the Army Vocational Training Centre at Aldershot, where students are trained as concrete casters, for permission to reproduce these illustrations; the figure was modelled by Mr. T. H. Wren.

British Art in Venice.

The Government will take over the British Pavilion in the grounds of the Biennial Exhibition of Fine Arts in Venice and become responsible for the organisation of future exhibitions, the scope of which is determined from year to year by the Italian authorities in Venice. The 1932 exhibition will consist of works mainly by modern artists, each painter being represented by a considerable group of his works rather than by a single picture. The Department of Overseas Trade is undertaking the organisation of the exhibit of British pictures and sculpture for the next Biennial Exhibition, which will open on April 28, 1932, in the presence of the King of Italy. A committee of selection, says *The Times*, has been set up under the chairmanship of Sir Charles Holmes, and has made preliminary arrangements for the selection of the exhibits to be shown in the British Pavilion.

This house, erected on a hillside at Llanfair Caereinion, for the C.M. Denominational, was built to certain requirements which necessitated considerable excavation. There being no water supply, this was brought from a spring found about 300 yards away. The joinery work throughout is quite plain, the doors being single panel. Fireplaces throughout are in 2 in. bricks, and the roof is covered with double Roman tiles. York stone was used for the dressing, and the whole work was carried out, at a cost of £1,500, by Mr. M. Isaac Jones, contractor, Llanfechan, under the direction of Mr. F. Howarth, L.R.I.B.A., the architect, of Towyn and Barmouth.

WELDED STRUCTURAL STEEL

A PORTION of the work of the recently formed Steel Structures Research Committee of the Department of Scientific and Industrial Research will be a research into the application of welding to structural steel construction. Experiments are being carried out to investigate the strength of welds and methods of determining the soundness of a welded joint in the shop or on the site of a structure.

Two systems of welding are in common use—(1) electric arc and (2) oxy-acetylene welding. The latter has not yet been used to a great extent on structural work, most of which has been done by arc welding, but there are some exceptions to this statement.

In oxy-acetylene welding it is possible to obtain a temperature of about 3,000 deg. Centigrade, and this has been used for many years for repairing metal work of all kinds. In electric welding there are three systems in general use, the arc being made between the two pieces to be jointed and a welding rod or wire. The two pieces form one electrode, and the wire forms the second. As a general rule, the voltage used is under 30, and the current varies from about 80 to 280 amperes. The generator must be able to supply constant current at a constant voltage.

With regard to the size of the welding wire electrode, this depends to a certain extent on the size of weld required. Once the arc has been formed, the end of the wire is withdrawn about 3-16 in. from the place where the weld is required. The wire is then moved slowly along the line where the weld is to be made, and the amount of material forming the bead is kept as uniform as possible. Great care has to be taken that a hole is not formed where the bead is ended, otherwise it will be difficult to continue the weld later if necessary. One of the disadvantages of welded work is the difficulty of determining whether the welds are satisfactory. The obvious method, of course, is to break the weld, but this is impossible in practice.

Reliance cannot be placed on welded joints without some knowledge of their character, and in actual erection work some joints are sure to be welded carelessly, even by expert welders. To detect bad welds, Professor J. R. Griffith has made extensive experiments with a stethoscope, tapping the weld at various points and using an amplifier to magnify the sounds. Inspection or supervision of welding operations is the best means of ensuring good work. By noting the practice and efficiency of the welders and watching each man systematically, the inspector can judge whether the required standard of work is being maintained. In addition, he can closely examine occasional completed welds, exploring the edges by means of a small chisel, or perhaps remelting a weld whose quality is doubted, although this last method cannot be applied as a regular procedure.

On one job in the United States each welder was first required to make two lap-welded specimens (each consisting of two 6 in. by ½ in. by 8 in. plates joined with a single ½ in. fillet weld), one specimen welded horizontally and the other vertically. After cooling, each specimen was torn apart with wedges and the fracture examined for brightness, texture, and density of weld metal, fusion, and penetration into the right-angle corner of the fillet. As this is the simplest test to make, it was also used from time to time in the field as a check on the welder's work.

Each welder was also required to make at least two butt-welded specimens (consisting of two 9 in. by ½ in. by 12 in. plates joined by a double-vee weld), one specimen welded horizontally and the other vertically. The specification allowance for tension on welds was 13,000 lb. per square inch, which, in comparison with the average of 52,663 lb. per square inch recorded for the seven welders qualifying in the tests resulted in a factor of safety of approximately 4.05. Finally, each welder was required to make at least two fillet-welded specimens, one welded horizontally and the other vertically. These specimens, consisting of two 4 in. by 1 in. by 12 in. plates joined by 3 in. by ⅜ in. by 6½ in. cover-plates top and bottom, utilising ⅜ in. fillet welds, were also tested in tension on the basis of a permissible working stress of 3,000 lb. per linear inch. The average of 13,007 lb. per linear inch obtained on the specimens made by the seven welders showed a factor of safety for these connections of 4.34. In the field all welds were inspected by a trained welder under the direct supervision of the engineers.

Nearly one hundred cities and towns in the United States have adopted the structural welding code of the American Welding Society, and a bulletin recently published by the society contains the report of the committee on nomenclature, definitions, and symbols. This includes several charts that should prove useful to those engaged in showing welded details on drawings.

The types of weld in common use are butt weld, single or double-vee butt weld, fillets, and slots. Before any two surfaces can be joined together, the metal must be properly melted. In the butt weld with square edges, a space must be left so that the arc may be struck over the whole of the edges. With thick plates a joint can only be properly made by cutting bevels on both sides and welding from each side in turn.

Perhaps the most important type of weld for structural steel is the fillet. This is also the easiest to make owing to the two surfaces to be connected being easily accessible. An important accessory is a jig, or an arrangement of temporary bolts, to hold the pieces in position during the welding process. Welding itself is sometimes used to hold plates in position by tacking along the edges of the inner sections. A number of tests have been made in the United States and elsewhere to discover the strength of welded joints. The general conclusion seems to be that with properly executed and supervised workmanship the strength of the weld is practically the same as that of the original metal.

In an American specification for welded joints, the following working stresses for combined dead and live load, including impact, have been given. Shear on minimum section of welded metal, 11,300 lb. per sq. in. Tension on minimum section of welded metal, 13,000 lb. per sq. in., compression on minimum section of welded metal, 15,000 lb. per sq. in. The maximum compression due to bending should not exceed the values just given for tension and compression respectively. It is common practice to allow stresses in welded joints due to wind alone, or combined stresses due to wind and other loadings, to exceed the values given by ⅓.

Some examples of the application of welding to structural steelwork will probably be of interest to readers of *The Builder*.

For structural work in steel-frame buildings welding has been extensively used in the United States. In one building of nineteen stories, practically all the connections were made by electric welding. This structure ranks as the tallest all-welded building yet completed, and is 246 ft. high from foundation level. The ground floor plan is 100 ft. by 100 ft. with several setbacks occurring at upper levels. Panels vary in size, averaging 25 ft. square. The steelwork consists of rolled columns, three plate girders, nine roof trusses, and beams. Except for a top lift of three stories, column lengths are two stories.

The welded connections were designed to eliminate all overhead welding in the field, and to permit as much welding as possible to be done in the shop. The floor beams rest on webs of flame-cut I-beam brackets welded to the flanges of the columns, and on angle brackets welded to the column webs. Floor beams, designed to take wind stresses, are connected by two plates, one, on the underside of the top flange, being shop-welded, and the other, on the top side of the beam, being field-welded. Columns are spliced by plates welded to the outside of the flanges. The splice plates were shop-welded to the top of the columns, the upper half of the plate being drilled with four bolt holes for erection purposes. Enough holes were provided in all members for temporary bolted connections, so that the erectors could work ahead independent of the welders.

Welding rods, 5/32-in. and 3/16-in. diameter, were used to make ⅜-in. and ½-in. beads. Five Lincoln welding machines, rated at 200 amperes, were used.

The Westinghouse Electric and Manufacturing Co. recently erected its twenty-fourth welded building. The latest building, involving 2,000 tons of steel, is the largest all-welded structure built to date, and represents the extent of the progress which has been made in this type of construction. It will be used to house twenty-five engineering laboratories, and is designed to withstand heavy loads and shocks imposed by various testing apparatus. One of the laboratories will be devoted to developing welding methods and processes. The upper six floors will be used for offices. The building is 191 ft. high, 220 ft. long, and 120 ft. wide. More than sixteen tons of welding wire were used. Fifteen welders were employed for the field erection work, and three per cent. of the amount of steel required for a riveted design was saved through the use of arc welding.

For column and floor members, wide-flanged beams were used, the parallel flanges being well adapted to welded designs. The joints were designed with the object of minimising the use of overhead welding. A maximum unit stress of 11,300 lb. per sq. in. was used in the welds. Field erection was done with the aid of erection bolts. Seat angles and other details were welded in place in the shop. Tests indicated that a plate approximately the thickness of the weld should be used on each side of the girder web, that the width of the plate should be about six times the thickness and the length not more than half the girder height, and that the sum of the minimum sections of the two webs should be about 25 per cent. greater than the web thickness. This construction insured a minimum amount of stress concentration in the welds due to the beam deflection, and distributed the stress over a considerable area of the web material. The type of column splice used permits easy shop and field fabrication. The splice plate is not fastened direct to the column flange, but is fastened to a plate inserted between the flanges.

Very thorough inspection was maintained throughout the entire shop and field welding of this structure. All welders were required to make acceptable specimens for tension and bend testing. The latter consisted of two 3-in. by 6-in. by ⅜-in. bars joined at right angles to one another by a ⅜-in. welded bead on one side only. These tee welds were made in both the horizontal and the vertical position, and the welds were fractured to determine the area of fusion and general appearance. The tensile specimen (two 2-in. by 6½-in. bars joined by ½-in. splice plates top and bottom) was broken in a testing machine and a strength of at least 45,000 lb. per sq. in. was required of the ½-in. fillet welds.

Each joint in the building, when completed, was marked or "signed" by the welder. This mark consisted of a simple pattern, such as three dots, formed on the beam adjacent to the weld with the welding electrode. Individual marking of welded joints has been in practice in the Westinghouse shops for some time, and is a very effective method of insuring high quality welding. There is no chance of evading the responsibility of poor workmanship. After each joint in the building was approved a

pe

distinctive mark was applied to it by the welding inspector.

The lack of noise and confusion in the construction of this building was remarkable. Although the building was constructed within a few feet of the engineering headquarters, the hundreds of occupants were hardly aware that structural steel was being raised and put into place.

An arc-welded steel bridge has recently been erected at Lowicz, Poland, and crosses the Sludwia River in a single span 88 ft. 6 in. between supports. It is located on the principal State highway between Warsaw and Berlin. The total width of the bridge is about 32 ft. 9 in. and the distance between the trusses is 20 ft. 4 in. The material used in the bridge is mild steel with an ultimate strength of 55,000 to 60,000 lb. per sq. in. and with a minimum elongation of 20 per cent. The allowable unit stresses were 16,000 lb. per sq. in. for the trusses and about 12,000 lb. per sq. in. for the floor-beams and stringers. Mild steel electrodes with an ultimate strength of 55,000 to 60,000 lb. per sq. in., containing a minimum of 0.1 per cent. carbon and 0.25 per cent. manganese, were used. Elongation, bend and shearing tests were required of all welders. All members of the trusses are built up of plates, channels and angles. The booms are built up entirely of plates. The diagonals consist of two channels turned to the outside and joined with cover-plates top and bottom, while the vertical members are made up of a single plate and four flange angles. The crossbeams are plate girders constructed entirely of flat plates with no flange angles. Longitudinal stringers of H section are welded to the cross girders by trapezoidal plates to connect and stiffen the web of the cross girders.

All the welds of the plates are butt welds. In the calculations it was assumed that these welds had only 75 per cent. of the resistance of the base material. The wind bracing consists of angles welded to horizontal gussets which are attached to the lower chords of the main trusses and to the cross beams. Pieces up to 23 ft. long were welded in the shop. Special jigs were used at about 3 ft. intervals to hold the pieces firmly together. In one instance these jigs consisted of ¾-in. round bars bent according to the cross section of the pieces to be welded. Two gussets were welded to the inside of these bars with a space of about 2 in. between the gussets. The width was regulated by means of two angles in such a way as to admit the vertical plates of the bridge member with close clearance. In the jig for the upper chord, which has a double-T section, channel spacers were placed between the vertical plates of the chord. Between the gussets and the flanges of these channels a space about 1 in. wide was left to permit free access of the electrode.

Vertical members, consisting of a plate and four angles, were assembled by the aid of two screws on both ends and some short welds along each vertical. The two channels of the diagonal members were assembled by means of plates.

"UNILEVER HOUSE"

In the gradual metamorphosis which is now proceeding in the City, yet another landmark has disappeared in de Keyser's Hotel, which faced Blackfriars Bridge. The old building was only built in 1870. The site thus cleared is now to be occupied by Messrs. Unilever Headquarter Offices, which will house about 3,500 staff.

The floor of the new building will be 270,000 sq. ft., and the net office area 200,000 sq. ft. The building will rise to eight stories above ground. The new building is approximately the same weight as the old. The problem of foundations has in this case been solved by driving piles over the whole area into the blue clay. The type of pile used is a hollow steel tube filled with concrete, and steel reinforcement. Above the foundations the building is of steel-frame construction, with the street fronts faced in Portland stone. The floors are constructed of hollow terra-cotta blocks, carried by steel reinforcement rods from beam to beam. In plan, the building follows the best principles of modern office planning. Vast offices, capable of easy subdivision, of ample height and well lit, are served by batteries of high-speed lifts, grouped with stairs at four salient points, and connected by broad corridors controlling these points. The managerial rooms, and those for the directorate, are placed on the upper floors, facing the river front. Off William-street there is a quick-lunch bar already open to the public. There is also provided in the building a small room as the managers' dining-room, and one for the directors, with the necessary kitchens.

From the drawing that illustrates our Calendar, published with this issue, it will be seen that the front to the Victoria Embankment has been conceived by the architects in a broad and dignified manner, which, while on the one hand achieving an effect of great scale, on the other hand pays due regard to architectural good manners in that it takes cognisance of its neighbours. Moreover, in itself it is properly conceived in relation to the people who will occupy it. The style adopted is Renaissance. The main front to Victoria Embankment follows the curved line of the road. The ground floor, with its wall near the road, is taken up as a solid wall with no windows, so that protection is given to the offices on this floor from the noise of traffic. The wall not only gives this protection, but, owing to the fact that it is unpierced by windows, provides a long unbroken surface of strongly rusticated masonry that forms a magnificent base story over 25 ft. high for the main wall of the building, which is set back 12 ft. from it. Light is provided for the ground-floor offices at the base of the main wall by means of large clerestory and top lights. The main wall itself rises 82 ft. above the base story, and is treated in one plane, with the necessary punctuation in the way of window openings.

It was necessary to arrive at some agreement with the City of London Schools (the adjoining neighbour), and this it was possible to arrange, so that the Unilever areas will correspond with future lighting areas on the School's property; thus the lighting of the premises of both parties will for all time be safeguarded by this reciprocal agreement. In preparing the design it was found desirable to eliminate the nuisance caused by the roar of the traffic from the street; therefore it was decided to omit all windows from the ground floor and form a blank "plinth," and by setting back the building at the first-floor level this "plinth" has proved already that it acts as an admirable buffer, as the rooms on the first and second floors (even with the windows open) are almost free from noise. Setting back the main wall of the building also allowed the piling for the foundations to proceed rapidly and without interference with the Underground Railway, and this did away with the necessity of rebuilding the retaining wall to the street. It also made possible to obtain a larger ground-floor office, well lighted by direct light from clerestory windows.

The new building provides for a "car way" under the building from William-street to the Embankment at the westerly corner of the new building. This was considered necessary owing to the fact that cars are not allowed to wait (for traffic reasons) at the main entrance.

Architectural interest in the matter of surface moulding is introduced by means of a colonnade of free-standing unfluted Ionic columns, 34 ft. high, running through the fourth, fifth, and sixth stories, and finished at the end by broad plain faces that run down to the top of the ground-floor story wall. Behind the colonnade the window openings run through the three stories in metal, which will be painted in rich colour, the windows in other positions being painted in to harmonise with the stone colour of the walls themselves. Above the cornice and parapet over the Ionic columns is an attic story, set back 10 ft., which crowns the whole building. This attic wall appears as a solid building, light to the seventh story being obtained from windows at its base and top lights in the roof, which will not be visible from the ground. Two groups of statuary at the east and west ends of the building have been entrusted to Mr. Reid Dick, R.A., and are a noteworthy contribution to the architectural appearance of the building. The group represents "controlled energy," and is depicted in each instance by a shire horse—in one, guided by men, and in the other, by women.

Entrances are provided at three points on the main front, the main entrance in the centre and subsidiary ones at the end, the latter being ingeniously contrived on a quadrant face cut away at about an angle of 45 degrees from the main front wall. The latter entrances support sculptured groups surmounted on a high podium. It is of interest to note that it is proposed to grade the textural finish of the stone, so that the stone—that in the lower stories will be from the "roach-bed" of the stone, which contains a large proportion of fossils—will be graded until it reaches the upper part of the building, where it will be from the "whitbed," which contains no fossils. The effect of this treatment will be that greater interest is given to the wall surface.

The heating of the building will be by a low-pressure hot-water system, with radiators, the boilers being fired with oil fuel. A plenum system will be installed to provide artificial ventilation where required in areas where it is either impossible to obtain natural ventilation, or where the question of noise renders natural ventilation undesirable. In the offices nearest to the Embankment the ceilings will be finished with acoustic treatment to absorb sound.

The design and plans upon which the scheme is based were prepared by Mr. J. Lomax Simpson, architect and managing director of Messrs. Lever Bros.; Sir John Burnet, Tait & Lorne are the architects.

The general contractors for the work are Messrs. Holland & Hannen and Cubitts, Ltd.

Amongst the principal sub-contractors were:—Dorman, Long and Co., Ltd., steel; Diespeker and Co., Ltd., terrazzo; Emerson and Norris, artificial stonework; Val de Travers Asphalte Paving Co., asphalt; Lion Foundry Co., ironwork; Fenning and Co., Ltd., granite and marble; Matthew Hall and Co., Ltd., plumbing and drains; Sturtevant Eng. Co., cleaning plant; J. W. Guthrie and A. Wells, Ltd., painting; Scaffolding (Great Britain), Ltd., scaffolding; Compton Bros., glass and glazing; Caxton Floors, Ltd., floors; Crittall Manufacturing Co., metal windows; Mather and Platt, hydrant and fire appliance service; Waygood Otis, lifts; Young, Austen and Young, heating, hot water and ventilating installation; Stevens and Adams, "Gurjun" flooring laid complete; Carter and Co., Ltd., quarry tiling and floor tiling in toilets; Troughton and Young, electrical work; J. M. Pirie and Co., lift enclosures, W.W. guard, rails; May Acoustics, Ltd., acoustic plastering; H. Hartley and Co., Ltd., plastering; Bath and Portland Stone, stonework; Braby and Co., three fire escape stairs; Birmingham Guild, Ltd., main entrance doorway, two sets of side doors, flanking doors, one set doors at opposite end of main entrance hall, etc.; Malcolm MacLeod and Co., Ltd., granopaving; Geo. Parnell and Co., metal framings to lavatories from ground floor up, "Staybrite" handrailing to stairs; C. Isler and Co., artesian well; Leeds Fireclay Co., tiling and "Chipwood" partitions; Walter Gilbert, bronze works to main entrance gates; Francois Cementation, Ltd., cork tile paving to staff corridors; London Brick Co. and Forders, Ltd., bricks; Cement Marketing Co., cement; and Reginald Lugg and Co., Ltd., bricks and partition blocks.

MODERN METHODS OF CONCRETE PLACING

In few of the operations peculiar to building construction have there been such radical alterations in working methods since the War as have been recorded in the handling and mixing of materials for concrete and in placing the concrete. Primarily improved methods were necessary as the result of the existence of very high labour rates; with purely manual labour paid at high rates, even mass concrete became a luxury product, and the only result could be a reduction in the total volume of building work in progress. A secondary reason for the changes which have occurred is the greater attention now being paid to the attainment of economy in the working of plant.

In all concrete work the mixer is the most important feature, and to maintain the mixer output at a high uniform level over long periods of time is the essence of economical construction. This can only be accomplished by ensuring regularity in feeding it and in discharging and placing the concrete. A progress chart on which the mixer output is plotted each day serves a useful purpose; every effort should be made to discover the causes which produce "peaks" and valleys in the diagram, and, after discovering them, to straighten out the graph. Depreciation, insurance, interest on capital, and other charges continue whether the output is large or small, and it is clearly uneconomical to have a concrete mixer on the site unless it is helping to reduce working costs. Breakdowns increase the cost of concreting by upsetting the whole organisation of the work.

So far as mixer design is concerned the principal points in selecting a mixer of any size are to see that the drum and blades are of the best quality for resisting attrition, and that the engine is of first-class manufacture with important parts protected from cement and dust. If these points are attended to, the cost of renewals will be small and the mixer will have a long life.

The maximum output of a mixer of any size working under definite conditions of loading and discharge is now well known to contractors, and when the specification demands an unusual length of mixing time the alteration in output is easily calculated. The importance of reducing the interval of time occupied in filling and discharging the mixer cannot be too highly stressed, since this is the only part of the time required for each batch on which a saving can be made.

To obtain high outputs the mixer must be constructed so that (1) the lifting power acting on the loader is sufficient to avoid unreasonable loss of time; (2) the loader is quickly discharged; (3) the water supply is adequate; and (4) the batch is completely discharged without undue delay. In the older types of mixer these points were often insufficiently attended to, and it was not uncommon to see men striking the bottom of the raised loader with sledges or pieces of timber to hasten the discharge. In some mixers, also, the water supply was merely a trickle and caused considerable delay. When working at high output, the importance of having an adequate water supply to the tank is fundamental. A frequent mistake is to instal too small a pipe, with the result that the tank is not filled sufficiently quickly and the men behind and in front of the mixer are losing time. On many building contracts, in addition to the main mixer feeding the tower or hoist, a small portable mixer is used for pouring the concrete footings, stanchion bases, and other work below ground level. A central position with respect to the site is desirable for the main concrete placing plant. In certain circumstances where the site is cramped or within existing walls around a factory, it is often best to place the mixer near an entrance so as to enable lorries to approach and leave the mixer easily. In favourable conditions for warehouse or factory construction and similar work, a position near the middle of the longer side of the structure to be erected is generally chosen if a hoist is being used to elevate the concrete. An example of this is shown in Fig. 1, in which the mixer and hoist tower were placed at the middle of the longer side of a warehouse.

FIG. 2.

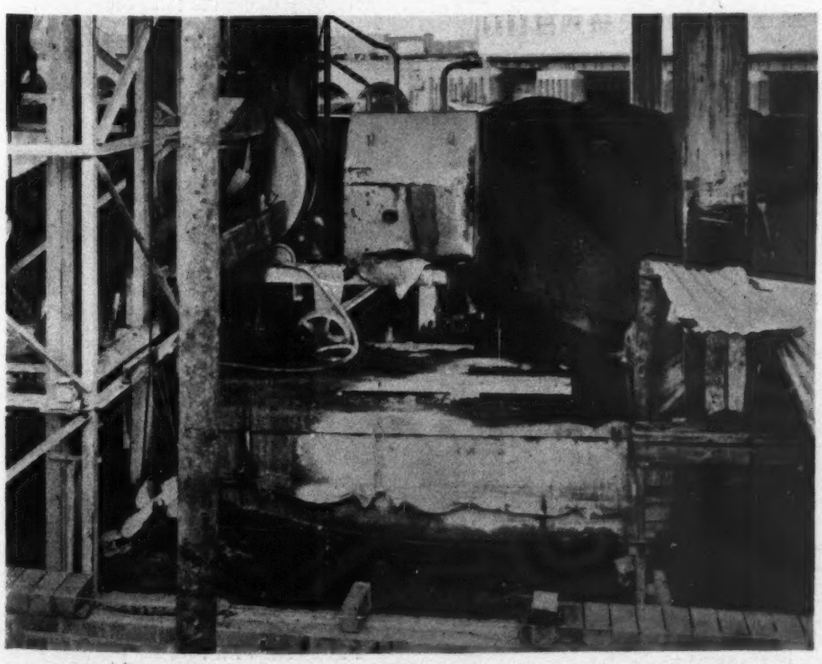


FIG. 1.

One of the principles involved in economical handling of materials is that gravity should be allowed to do as much work as possible. With this aim the mixer is erected at upper ground level and the concrete conducted to its position through timber or metal chutes. Clearly less manual work is done by unloading the aggregates and cement at the upper ground level near the mixer, raising them from this level into the power loader, and allowing the concrete to discharge by gravity, than by discharging all the aggregates and cement into the bottom of the excavation, lifting them into the power loader, and then raising the same weight, as concrete, above the mixer outlet to the level of the forms. In one case, however, it is preferable to discharge the aggregates into a mixer in the bottom of the excavation. This occurs when the mixer can be fitted with a fixed loading hopper extending up to upper ground level, into which the aggregates are loaded directly.

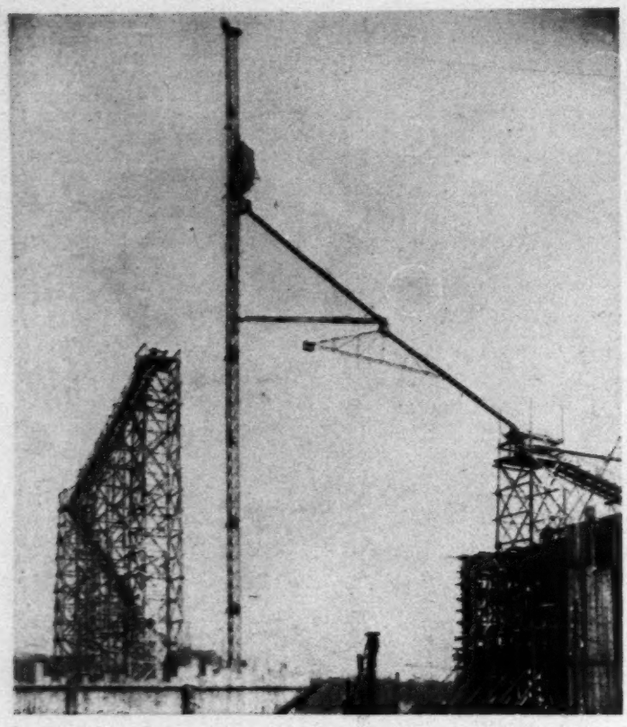


Fig. 4.

An extension of the principle mentioned is found in the old rule which requires the coarse aggregate to be piled nearest the mixer, the sand next, and the cement farthest away, the reason being that the weight of coarse material is twice that of the sand and approximately four times that of the cement; the manual work required is a minimum when the product of the weight of each by the distance through which its centre of gravity is lifted is least.

To avoid wheeling the aggregates for filling the power loader, a pit is sometimes excavated, into which the loader is let down until its top is flush with the ground level. The aggregates are then shovelled directly into the loader, thus reducing the manual labour otherwise required for lifting them from ground level to the level of the back plate of the loader.

Following the principle already referred to in which gravity is made to do as much of the work as possible in moving materials, it is clearly advantageous to construct a pit in which to erect the mixer and to use a fixed loading hopper. The top of the latter should be at upper ground level, and the pit will generally require to be 7 ft. or 8 ft. deep. Its other dimensions depend on the space required for the engine and the winch. On the side where the mixer discharges the pit must be deepened to accommodate the hoist skip and the foundations of the tower legs.

To dispense with some of the labour required in wheeling the aggregates to the loading hopper, vertical timber screens are sometimes built alongside the upper edge of the mixer pit and provided with outlet chutes leading to the mixer loader. The aggregates are piled up against these screens, which are separated by a partition wall dividing the coarse material from the fine. Such screens form an elementary type of bunker, but it is probably better to instal elevated hoppers and feed these by a crane and grab or skip or by elevators. This method is particularly useful where ground space is urgently required for other purposes than the storage of aggregates. Another method of arranging the plant when using a tower is to excavate a pit for the tower and its hoist bucket and a shallower pit to hold a hopper into which the mixer discharges concrete. In this case the mixer is erected at ground level and is filled from barrows on a ramp or by labourers shovelling into a power-operated loader.

For raising concrete from a mixer at ground level in order to concrete suspended floors, etc., a hoist or tower is almost indispensable. For many jobs a plant of modest dimensions is cheaper than a high tower, since the plant charges are less; for building contracts of average size in Great Britain one or more hoists may be used economically. Hoists similar to those illustrated in Figs. 2 and 3 can be erected and dismantled at a low cost and are not expensive to transport. When not required they do not occupy much storage space.

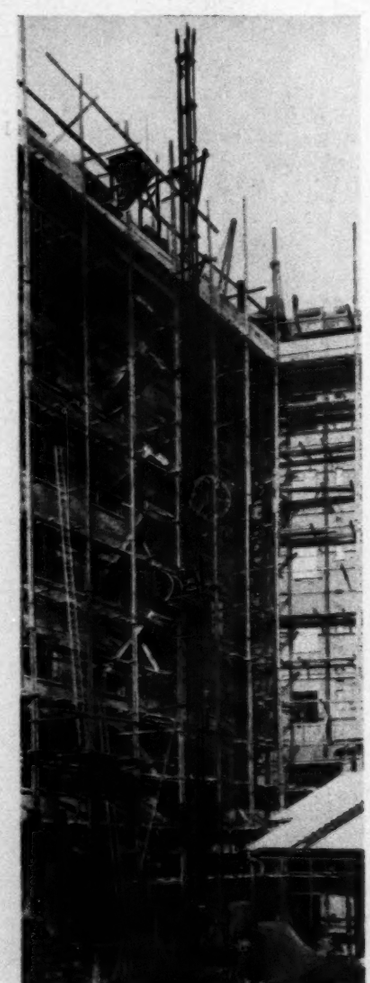


Fig. 3.

Chuting plants are to be recommended for large contracts where the pouring is continuous. A chuting plant with steel mast is illustrated in Fig. 4.

OBITUARY

FREDERICK A. WALTERS, F.S.A., F.R.I.B.A.

Mr. Frederick A. Walters, who, as we recorded in our last issue, died at his residence, St. Mildred's, Temple-Ewell, near Dover, on December 3, in his 83rd year, was a member of the Society of Antiquaries, and was also an Associate member of the R.I.B.A. until unanimously elected a Fellow in 1929. The son of Mr. Frederick Page Walters, architect, of Walbrook, London, E.C., he was educated privately and in France, and after serving his pupilage with his father entered the office of Messrs. Goldie and Child, Kensington, where he remained until commencing in practice early in 1880.

In his professional capacity he was considered one of the ablest exponents of ecclesiastical Gothic architecture since the Pugin Revival, and over forty churches, in addition to many convents, convent chapels, colleges, and domestic work bear ample evidence of his creative art and skill. His work is mainly to be found in connection with the Catholic Church, of which he was a member; but two examples in the Anglican Church are worthy of mention—the beautiful "Decorated" monument erected by the late Mr. Charles Rowley to his mother in the parish church of St. Neots, Huntingdonshire, and a chapel at St. Andrew's, Willesden Green, London.

Mr. Walters will be best remembered in connection with the rebuilding of the Benedictine Abbey Church at Buckfastleigh, South Devon, upon which he was continuously engaged from 1882 until a few days before his death. Under his guidance and direction the whole of the old foundations of the Abbey Church, destroyed in 1539, were exposed, and the magnificent new Abbey Church has been erected on them by the monks themselves from his designs and detailed drawings and under his supervision. This Abbey Church is to be consecrated next August.

Mr. Walters' knowledge of heraldry and decorative art was very extensive, and examples may be seen in many of his churches, particularly the Catholic Cathedrals at St. George's, Southwark, Plymouth, and Nottingham. In the numismatic world he was an acknowledged authority on the Anglo-Saxon and Early English coinage, and also that of the Roman Empire. He was a member and served on the Councils of the Royal Numismatic Society and the British Numismatic Society, amongst whose members he had many friends.

Amongst his many works there are in London SS. Anselm and Cecilia, Kingsway; the Guardian Angels, Mile End-road, for the late Lady Mary Howard; the Sacred Heart Church, Wimbledon; St. Winefride's, South Wimbledon; St. Anne's, Vauxhall; the Sacred Heart Church, Battersea; the Precious Blood, Red Cross-street, S.E.; St. Wilfrid's, Newington, S.E.; St. Anthony's, Anerley, etc., and many works in the Provinces.

In addition he has designed and carried out innumerable altars, reredoses, monuments, many war memorials and schemes of decoration, between thirty and forty elementary schools, and a large amount of domestic work. The practice is being carried on by Mr. Edward J. Walters, his son, who was articled to his father on leaving school and had been with him for the past thirty-four years and in partnership for many years.

THE BUILDING INDUSTRY IN 1931

THE year 1931 has been a bad year for the building industry, as it has been for commerce and industry generally in this country and also in the world at large. Indeed, 1931 has been appropriately referred to as a year of crisis. As early as February last the Chancellor of the Exchequer warned the nation of the danger which threatened the national credit. That warning was speedily followed by announcements of financial difficulties from various quarters abroad, and in April the Budget of the nation showed that a huge deficit was anticipated at home.

From that time onwards the sense of depression deepened, until in July there came the shock of the "May Report," with its estimate of a deficit for 1931 of £120,000,000. That speedily led to the resignation of the Labour Government and the formation of a National Government, it being recognised generally that the nation was threatened with as dangerous a crisis as that of 1914. Following hard upon that came heavy increases of taxation under the requirements of an emergency Budget, and then the suspension of the Gold Standard. So much for the first nine months of the year. In October there was the General Election, which had political consequences of a remarkable kind. The Labour Party and the policy with which it was associated received decisive political condemnation, and the newly-formed National Government was given authority to effect important and vital changes in the fiscal policy which has been followed by this country for nearly a century. Amid such circumstances the building industry has had to bow to the inevitable, like the rest.

The full repercussion of the national crisis upon the activities of the building industry has hardly become fully evident as yet. Figures published by the *Ministry of Labour Gazette* of plans passed by local authorities for the third quarter of the year 1931 and for the month of November last appear to indicate as a whole some decline in those periods when compared with the corresponding figures for 1930, but not a large one. Plans for housing, indeed, showed some increase for the third quarter of 1931. The decreases in the other directions, such as churches and public buildings, and in factories and workshops, however, more than offset the increase in housing, and they constitute unsatisfactory symptoms which should not be ignored.

The statistics of unemployment in the building industry for the past two years tell their own sad tale.

UNEMPLOYMENT FIGURES FOR THE BUILDING INDUSTRY.

	1930.	1931.
January	18.5	27.0
February	18.3	25.5
March	16.0	22.5
April	13.9	19.5
May	12.6	18.1
June	12.8	18.6
July	14.0	18.9
August	14.3	19.7
September	15.6	21.7
October	17.7	24.7
November	21.0	27.0
December	22.7	—

Since the General Election there has been a severe curtailment of the plans of works contemplated and covered in the statistics referred to.

The daily Press has recently contained some remarkable figures respecting the cancellation of works in contemplation. For example, a Sunday paper of December 6 said :—

> False economy is a dead hand on any nation. Yet the Government is encouraging it, and, as a result, development schemes involving the expenditure of more than £150,000,000 and giving work to thousands of unemployed have either been postponed or abandoned.

Others, taking perhaps a more restricted view, place the figure of Building and Constructional Works contemplated by local authorities and now suspended for reasons of economy at about £30,000,000 to £40,000,000. It would appear, therefore, that the prospects of the building industry for some months to come are not good, seeing that work presently in hand will be petering out and that little or nothing in the way of new work is to be expected in its place.

The cancellation of constructional work by local authorities which has been taking place, however justifiable upon general economic grounds, is by no means all saving. In so far as it increases or maintains unemployment in the industries affected it is evident that in present circumstances the cost of the unemployment benefit or the public assistance which has to be provided should be set against any saving effected by refraining from proceeding with the works contemplated. If the requisite capital could be made available it would appear to be a more real and direct economy of current Government expenditure if certain of the constructional works which have recently been suspended could be once more released and the work proceeded with.

For the purpose of alleviating if at all possible this gloomy situation, the National Federation of Building Trades Employers recently addressed a communication to the Minister of Health. The letter referred to the circular to local authorities (No. 1222), issued by the Department on September 11, 1931.

It was remarked that when this circular was brought to the notice of the Federation it had been received with the utmost sympathy. The hope had been entertained that considerable savings might be made in the administrative machinery of local authorities in all its branches and that thereby a real and permanent reduction of the "on-cost" burdens upon the ratepayers might be effected. It was mentioned that the Federation were desirous of co-operating in every possible way in the spirit which had prompted the Minister to issue this circular. At the same time, fears had also been entertained that the Minister's recommendations, as expressed in the circular, might be misinterpreted by the more reactionary local authorities.

While such fears did exist, it was hoped, however, that local authorities generally would interpret the circular in the spirit of pronouncements by the Prime Minister and other members of H.M. Government concerning the difference between true economy (wise expenditure) and false economy (the indiscriminate abandonment of all new expenditure). In this connection it was remarked that the terms of the circular itself rightly discriminated between, upon the one hand, work of an urgent and remunerative character, or work otherwise justifiable upon the grounds of relieving unemployment, and, upon the other hand, work which is not of such a character. It was anticipated therefore that this discrimination might be reflected in the decisions of local authorities.

Information and representations which had since been received made it increasingly clear, however, that the fears of the Federation members had been realised and their hopes disappointed, and it was submitted that, while the terms of the Ministry's circular, in the circumstances in which it was issued, were such that no criticism of it could reasonably be offered, the interpretation which has been placed upon it in some important localities was of such a character as to produce effects upon their building proposals far more drastic than were, it is thought, contemplated by H.M. Government.

It was pointed out that a further aspect of the present situation is the effect upon the architectural, surveying and structural engineering professions, which are suffering from a dearth of employment unparalleled in recent memory. This may be taken as a clear indication that the work in prospect is so small that, far from any improvement, unemployment in the building industry will greatly increase in the near future unless some stimulus can be provided.

The Federation were aware that confidence has been expressed that there would be more employment on assisted housing this winter than there was last winter. Even if this should prove to be so it must be remembered that last year was a particularly inactive period compared with the years 1927, 1928 and 1929. Moreover, the outstanding and regrettable feature in the building industry is that, whilst there has been some activity in house building in recent years, the proportion of house building to other classes of building has been increasingly large, and this is regarded as detrimental to the best interests of the building industry.

For the reasons set out in the communication, the Federation asked that the Minister would consider the issue of a further circular to local authorities or take such other action as may be effective with the view of further stressing the discrimination previously advised by him in regard to priority of building works, particularly emphasising the advisability of differentiating (on the one hand) between the urgent, remunerative, and other necessary or otherwise justifiable works which had been in contemplation, and (on the other hand) those works which ought to be deferred without public detriment.

Special attention should, it is suggested, be directed to the effect upon the employment question of proceeding with useful building work. The difference should be emphasised between positive economy, which would result from the reduction of general administrative costs, and the doubtful economy of deferring necessary building work. In the latter case the amount of employment ensured represents at least 90 per cent. of the total expenditure, and the resulting structure is a permanent asset and thereby increases the National wealth.

As regards the efficiency of the industry itself the building industry is in an excellent position for coping with all demands likely to be made upon it. Great advances have been made in the technique of building construction in recent years and only some modernisation of the customs, practices and regulations which have hitherto prevailed is needed in order to enable the fullest advantage to be taken of that improved technique.

Relations between employers and employed are good, and negotiations during last summer resulted in a new agreement being reached which ensures the normality of labour conditions in the industry for the ensuing twelve months at least. An adjustment of wages in the shape of a reduction, under the sliding scale based upon the cost of living which has further declined in 1931, of one halfpenny per hour is expected to take place on February 1, and no further change of importance can take place for twelve months.

The decline in demand for constructional work which has been so conspicuous in recent months must have affected the price of building materials in favour of buyers. Indeed, to those who can see their way presently to enter the market as buyers of constructional work, the moment is particularly auspicious, nor is it likely to become more favourable to any marked degree. Manufacturers of materials used in building construction appear, however, to be on the alert lest, owing to changes in our fiscal system which are being pressed upon the Government from many quarters, they may find it necessary to safeguard themselves against higher prices of certain kinds of materials in the near future.

The departure from the Gold Standard last September, while not affecting the internal purchasing price of the pound sterling, has resulted in a depreciation of its purchasing power in respect of foreign goods from certain sources. The effect of that depreciation, whilst advantageous to our exporters, is disadvantageous to our importers. Thus it serves as a measure of protection to our home manufacturers, and to that extent will discourage the importation of building materials, such as bricks, tiles, cement and metals. Owing to the depressed condition of the building industry and the consequently small

demand for materials, any loss of imported materials may not as yet have been felt to any extent. In any case manufacturers would be well advised that a revival of demand for building materials, whenever it occurs, would be discouraged by undue increases in the prices of home-manufactured materials for use in building construction.

When one considers what are the prospects of an improvement in the demand for building construction there are a number of factors to be taken into consideration. The Minister of Health, speaking in the House of Commons on December 10, said "it was an ascertained fact that there was a serious shortage unremedied of the smallest types of houses to be let for the working classes. It was equally recognised that the process of decontrol of that type of house was causing acute and unnecessary local grievances. It was further recognised that private effort had already succeeded in getting pretty well forward with the supply of houses of the larger types. The outline he had given would not be complete unless it were coupled with this: that when they were perpetuating control of the smaller house there should be concentration of effort on the building of such houses by means of subsidies" (*The Times* report).

It may be inferred from that statement that the Department has in view the release from rent control of all but the smallest types of house. Legislation will be required for such release, but once it takes effect there should be some increase of speculative building so far as the decontrolled types are concerned. If local authorities will carry on with the provision of working-class houses by means of the subsidy, it may be helpful at the present juncture, but for any substantial improvement of the untoward conditions and lack of employment from which it presently suffers, the building industry must look to a revival of demand for other classes of building. Such an improvement, however, must depend upon an improvement of the world conditions which at present bear so hardly upon the commerce and industry of the world.

The great trading communities of the world are all suffering more or less from unbalanced budgets and general financial stringency due to war debts and reparation requirements. These budgets must be balanced, involving heavier taxation, which, in turn, increases the burdens upon commerce and industry. Means must be found for rendering the burden of war debts and reparations more bearable. These difficult questions are engaging the attention of statesmen all along the line, but the solution is extremely difficult and must inevitably take time.

Adverse trade balances are perhaps the most serious difficulty of all. Great Britain is engaged upon an attempt to adjust her fiscal system so as to restore her trade balance to a profitable basis. This, again, is not an easy matter, for a careful course must be steered, aiming at not only the protection of our own manufactures and the maintenance of our foreign trade, but also at the stimulation of our inter-Empire commerce. The financial editor of the *Observer*, in its issue of December 20, seemed to express the situation with fair accuracy when he wrote:—

> Just now the whole world is full of problems, the solution of which must take time. It is, in fact, a waiting period, full of anxiety for everyone. The experts are busily investigating Germany's financial position with the knowledge that whatever views they may put forward France and the United States will still insist grimly on their pound of flesh. Japan has joined the growing list of nations whose currencies have followed sterling in going "off gold," and every day rumours are in circulation of other nations preparing to take similar action. . . . In the United States there has been a further recession in values as an answer to the wild unrealism of Congressmen.
>
> Internally, we have reached a stage of marking time while the headquarters staff prepares for the next step forward. One Budget is balanced, or will be when we have all met the demands of the income-tax collectors. The first stage in the restoration of the trade balance has been taken in the Abnormal Importations tariff, a further list in connection with which has been issued this week. We know that we are on the right road. International storms, which may reach great intensity in Germany and the United States in the near future, will, no doubt, have fierce reactions on our progress, but with patience and perseverance we shall win through.

In the circumstances it may perhaps be anticipated that in the course of the next three months the situation will have been considerably straightened out. The fiscal changes contemplated by the Government will have been clearly enough defined to enable manufacturers to plan and prepare their programmes of future business. Those industries which are to be granted some measure of protection will be busy getting ready to make the most of it, and it may well be that they will need some building developments of one kind or another. Foreign firms who desire to get behind any British tariff that may be imposed in order to maintain their connections here will be starting manufactures in this country and will probably need building work to do so.

The debts and reparations questions will have to be put upon a settled basis for some time to come, whether by an extension of the moratorium or otherwise. It is perhaps too much to expect that they may be placed upon a permanent basis, thus eliminating the possibility of fresh trouble. The budget proposals of the various nations will have been made known, and a large measure of financial confidence, it may be hoped, will have been once more restored. The operations of commerce and the wheels of industry will presumably once more therefore be able to function as before.

Thus it may be hoped that, barring accidents, the middle of 1932 will see the end of the long depression and find the world once more facing its future with renewed hope and elasticity, in which case the building industry in this country should likewise experience a welcome renewal of activity and again bask in the sun of prosperity.

LAND DEVELOPMENT AND TRANSFER

By W. T. CRESWELL, Barrister-at-Law, Hon. A.R.I.B.A., A.S.I.

In these days, when so much provision is being made for housing, anything that can be done to facilitate the transfer of the land for building house property should be done by those concerned, to decrease the costs of transfer or development.

The person who sets out to develop building land must, in order to assure a reasonable prospect of profit from any scheme he undertakes, take into account, amongst other things, the cost of the land, its laying out, together with the cost of roadmaking and sewering, as well as the actual cost of the buildings to be erected on it, with the installation of gas, water and electric supply, etc., thereto; also the fees of architect and surveyor, and the legal fees and expenses to be incurred at the outset and during development.

Maybe he has to abandon his scheme, because the outlay of such money, prior to any return of profit, promises to exceed his financial powers.

Root of Title.

Prior to the passing into operation of the Law of Property Act, 1925, the transfer on a sale of land was complicated and cumbrous. Much expense was caused to owners of land (and others), owing to the necessity that the vendor should satisfy the purchaser that he had a sufficiently good ownership to enable him to hand over a good marketable title to the property sold; and one such, as could at all times be forced on an unwilling purchaser. Under the Vendor and Purchaser Act, 1874, a vendor had to deduce a title of at least 40 years preceding the sale. The 40 years had to commence with what is called "a good root of title" and this in many instances (as, for instance, when the land being dealt with had not changed hands within the preceding 40 years) meant going back much farther than the interval stipulated. Furthermore, certain pieces of land being subject to easements, restrictive covenants, rent charges, and the like, there arose the demand for exhaustive examination of titles in the interests of the purchaser. Moreover, if the said purchaser set about selling the land so acquired even a short time afterwards, the new purchaser had to go through the whole trouble and cost again, and so on for each subsequent resale of the land.

New Law.

The Law of Property Act, 1925, came into force on January 1, 1926, and had for its main object the simplification of the law relating to the ownership, settlement, and devolution of land and property generally. Also, it essayed to decrease the difficulty above referred to, of investigating the title on transfer, and to abolish mere technicalities, so reducing the costs involved. This Act then made so many changes that it was said, when it actually came into force, that it would take the ordinary man a lifetime to understand its provisions. That view is no longer held, at least, by many who have had to work under it and endeavour to construe its clauses for the Courts. Still, although many important cases have been determined in the Courts, nevertheless much further elucidation of its legal implications is necessary.

This (1925) Act consolidated enactments relating to conveyancing, and the law of property generally, in England and Wales. To this end it repealed some 47 statutes, wholly or in part, and set forth the law in clearer form. Amongst those Acts repealed wholly or in part, were the Statute of Uses; parts of the Statute of Frauds; the Real Property Act, 1845 (relating to leases and contracts for the sale of land); the Leases Act; the Vendor and Purchaser Act, 1874; and the Conveyancing Acts, 1881 to 1911.

Good Title.

It must be remembered that when selling land a vendor must trace its history from the date of the root of title. A good root of title (*a*) deals with the whole legal and equitable estate; (*b*) contains a full description of the land; and (*c*) does not show any defect in or leave any doubt as to its being a good title. In respect to freeholds, leaseholds and enfranchised copyholds, the period now stipulated for which both must be shown by the vendor as having been in his ownership is reduced from 40 years to 30 years; and he must show that the property described in the deeds is actually the same property which the purchaser has agreed to buy. This is not always easy to do. The deeds of the land may, for instance, describe it as being in the occupation of a person who at the date of present sale has long been dead; or as a field under a name long since disused, and identification becomes difficult.

The vendor also must prove that the actual position, size and nature of the land agree with the description under which it is sold. Some slight mistake will, however, not set aside the contract of sale. Such mistake, if to the disadvantage of the purchaser, is subsequently made good by the vendor paying him adequate compensation.

Whilst these matters are proceeding, the vendor must, to a certain extent, hold the property, as trustee for the purchaser, from the date of the contract and until the conveyance is completed. On completion, the vendor must hand over the title deeds to the purchaser unless they relate to any part of the estate retained by him; then he must give an acknowledgment of the purchaser's right to have the deeds produced whenever the purchaser requires them: also an undertaking to keep the deeds in safety.

Registration.

The remedy against this cost and delay in transfer, to which we have referred, lies in further development and extension of compulsory registration of title to land.

Prior to 1926, the registration of the title was, to a certain extent, made compulsory within the County of London. In the counties of Middlesex and Yorkshire all deeds and wills affecting lands should be registered in the county registers. But in general, under the Land Transfer Acts, 1875 and 1897, registration of title was voluntary. The Land Registration Act, 1925, repeals these last-mentioned Acts, also the Land Registry Act, 1886, and consolidates the enactments relating to registered lands.

Under the Act of 1897, an area within which registration was compulsory could be extended by an Order in Council; but it could not be extended to any county unless the County Council declared its desire to have compulsory registration within its borders, so the net result is, in fact, that compulsory registration has remained in abeyance. As the law now stands, however, after 10 years from January 1,1926, an Order in Council may be made extending the area of compulsory registration, and the County Council will not be able to veto it. So in 1936 compulsory registration may be extended by Order in Council if approved by both Houses of Parliament.

The advantage of registration is that, once an owner's title to a piece of land is registered as an absolute title, any purchaser buying it from him need not prosecute an investigation of the title, and is therefore saved much time, trouble and expense. The registered proprietor must, at his own expense, provide the purchaser with an authority to inspect the register, and also provide him with such copies, abstracts and evidence in respect of any subsisting rights and interests apportioned to the registered land to which the register is not conclusive; also, he must supply information as to any matters excepted from the effect of registration such as the purchaser would have been entitled to if the land had not been registered.

CORRESPONDENCE

"The Uses of an Architect."

SIR,—Might I be permitted to observe that Mr. H. B. Creswell's explanation constitutes a new difficulty, as he states in effect that any architect who dislikes the Architects' Registration Act and refuses to register will be recognised as a quack, a charlatan, and an impostor?

XAVIER.

SIR,—Your correspondent, Mr. H. B. Creswell, stated (I quote from his letter published in your last issue) that he said, in his lecture at the R.I.B.A. on October 30: "When, in years to come, the Architects' Registration Act is fully established, the word 'architect' will at last mean a definite thing—it will then mean a quack, a charlatan, an impostor, for properly trained and educated architects will then be known as 'Registered Architects.'"

If this is so, it would seem that the R.I.B.A., lest it lay itself open to attack by this avenue, must change its title to "The Royal Institute of British *Registered* Architects."

SEQUITUR.

The Road to Prosperity.

SIR,—May I reply to your footnotes to my letter in your issue of January 1?

(1) Value is a word with more than one meaning; I assume that in your note it means Price. Prices do not fall of themselves; at the present time they have fallen mainly because of ineffective demand for goods. To reduce wages would make demand still more effective, and would still lower prices down to universal bankruptcy.

(2 and 3) This argues that bank loans are issued for consumption only of goods when produced. This applies, in part only, to capital goods, such as buildings, machinery, etc., designed to be productive, but leaves out of account all other products. Banks do not lend for pure consumption; for instance, they will not lend for the purchase of a motor-car, but they will lend for the construction of a motor-car, and will demand the return of the loan within a short time, irrespective of whether the car has been sold or not, or even finished and ready for sale. For the sale of goods, other than capital goods, banks provide nothing, except in the case of bank-financed instalment buying, which is not very popular with banks.

All industries must bear overhead charges —insurance, reserve, depreciation, and, most important of all, the repayment of bank loans or overdrafts. They must account these into prices, from those of the producer of finished goods, back through the producer of intermediate or partly finished goods, and down to the producer of raw materials. Shifting these charges from one industry to another does not get rid of them at all; on the contrary, the sum total of them appears in price to the consumer.

For example, take goods of a simple kind which go through only three processes. Firm A supplies the raw material, firm B carries out the intermediate process, and firm C finishes and markets the goods. Firm A spends an overdraft of, say, £100, which it adds into its price for raw material supplied to B. B pays A, and A repays the bank, which destroys the money. But B also has to borrow, say, £100 from the bank, which the bank recreates. B must now account into the price of his goods the £100 which he paid to A, plus the £100 which he owes to the bank, £200 in all. C is in like case; he pays B his £200, borrows £100 from the bank, and charges the total of £300 into price to his customers. The £100 of bank credit has now created £300 of prices, and, even if the bank allows C to retain his overdraft until he recovers its equivalent from the complete sale of his goods, there is only £100 in circulation to meet £300 of prices. If the bank demand repayment before C can sell his goods, there will be no money anywhere to match the £300.

I am familiar with an argument that a firm might not require to borrow from the bank at all, but applying this to industry generally is too good to be true; if it were true the banks would go out of business as lenders. It should be remembered that all money other than coin or King's money—a proportion of about £1,000 to £7—is bank-created and controlled money, and is held by the banks to be a "debt" due to themselves.

Events are proving that industry cannot sell all it produces—coffee in Brazil, wheat in Canada, cotton in the U.S.A., etc.—not because of a lack of demand, but because that demand cannot be made effective by purchasing power under the present rules—not laws—of banking accountancy.

(4) This has a strong flavour of the theory of rewards and punishments—a theory that has broken down very badly of late. It is precisely because of "efficient work and production" that work cannot be found for all, and because of the "debt" idea of credit finance—founded on a false morality—that support cannot be found for all. The unemployed are denied work and wages by that very efficiency, and producers are forced in turn to apply further "labour saving." Even then industry is not nearly as efficient as it might be. We are behindhand by a hundred years in our recognition of these facts and of the lifting of the old "curse of Adam" by scientific invention, and in our failure to realise that industry exists for the purpose of distributing an adequate supply of goods with the least expenditure of energy, and not as a backing for an out-of-date method of book-keeping.

ARTHUR WELFORD.

GENERAL NEWS

Professional Announcement.

Mr. R. E. Stewardson, F.R.I.B.A., announces that he is now resuming his practice in China and will be glad to receive trade catalogues, samples, etc., at his temporary address, the Shanghai Club, Shanghai, China. All communications sent to this address should be marked "via Siberia."

An Old Inn Destroyed.

The King's Head Inn, at Lane, near Newquay, which dates from 1575, was demolished by fire on December 31.

Proposed Branch Library, Morecambe.

The Lancashire Education Sub-Committee proposes to spend £15,000 on a new branch library at Morecambe, to be erected opposite Euston-road Station.

Proposed Low-rented Houses, Doncaster.

A scheme for building houses for aged people, to let at a weekly rental of 5s., is being considered by the Doncaster Rural District Council.

The Shackleton Statue.

The statue of Sir Ernest Shackleton will be unveiled on January 9. It is the work of Mr. C. S. Jagger, and will stand outside the hall of the Royal Geographical Society, Kensington Gore. The explorer is shown in Polar dress.

The Last London "Watch-House."

The last of the London watch-houses overlooking church cemeteries, built to stop the practice of "body-snatching," will be pulled down early in the New Year. It is in Waterloo-road and overlooks the cemetery of the church of St. John the Evangelist, one of the four London churches built in 1826 to commemorate Waterloo.

Manchester Education Revision.

Considerable reductions are to be made in the Manchester Education Committee's programme for this year. Plans for building seven new schools and for making additions to a number of other premises have been deferred. The only two new schools now proposed are for Blackley and Wythenshawe. A saving of £28,000 in capital expenditure will be effected.

The New Year Honours.

Amongst the recipients of New Year honours we notice the following names connected with the architectural and allied professions:—Prof. Patrick Geddes and E. D. Simon (Knights); Austin Woodeson, F.R.I.B.A. (O.B.E.); H. H. Humphries, M.Inst.C.E., G. E. Kendall, F.R.I.B.A., and Col. Joseph Spain, F.R.I.B.A. (C.B.E.); and Lawrence E. Tanner, F.S.A. (M.V.O., Fifth Class).

I.A.A.S. Lectures.

A series of monthly lectures on the Housing Acts, 1928-1930, by Mr. Leslie Maddock, barrister-at-law, will be given under the auspices of the London and Home Counties Branch of the Incorporated Association of Architects and Surveyors, at the Headquarters of the Association, 1, Wilbraham-place, Sloane-square, S.W.1, commencing on Tuesday, January 26, at 7 p.m. Admission is free and open to non-members, who may obtain tickets on application to the Secretary of the Association at the above address.

Surveying Scholarships.

The Chartered Surveyors' Institution offers each year a scholarship of £100 per annum, tenable at Cambridge University for three years, and three one-year scholarships of £125 each for a course of study at Cambridge University, or for the purpose of travelling. The award of scholarships will be by selection, and applications should be submitted to the Secretary, at the Institution, not later than the end of February. Full particulars in regard to the scholarships can be obtained from the Secretary, the Chartered Surveyors' Institution, 12, Great George-street, Westminster.

R.I.B.A. PRIZES CRITICISM.

The President, Dr. Raymond Unwin, occupied the chair at the Institute on Monday night, when Mr. E. Berry Webber, A.R.I.B.A., delivered a criticism of the students' work in the R.I.B.A. prizes competitions. There was a large attendance.

Frankly, said the lecturer, he was worried about his task until he asked himself the natural question, "Why does the Royal Institute in its wisdom appoint a critic?" The answer was obvious, "To help the competitors." Surely the most helpful thing, he said, was to let them know "why"—*why* they had won, and, even better still, *why* they hadn't won. (Later on, when as young architects they entered public competitions, they would be generally denied the pleasure of knowing why they hadn't won, unless it was through the medium of a candid friend or a knowledgeable person who had not studied the particular problem.)

Taking first the Soane Medallion, 61 candidates took part in the preliminary competition, of whom 13 were admitted to the final competition. In addition, ten candidates were admitted direct to the final competition, when 18 sets of drawings were received. The subject was a national library in a capital, on a level site facing the embankment of a wide river and approached by a bridge. There was no time, said the lecturer, to discuss the details of the library planning, but very broadly it fell into two main divisions and hinged upon the placing of the stack and the service of the books from the stack. (1) There was the type incorporating an almost isolated stack of several ties, long and narrow on plan, and generally placed in the rear of the building, with a lateral service of books from stack to reading rooms. The advantages of that scheme were that the stack was better lighted with natural daylight and it would be easily isolated in the event of fire. (2) The second method was to place the stack beneath the reading rooms with a vertical service for books. That made it much more difficult, if not impossible, to light the stack naturally. It was significant, however, that after considerable thought, that scheme had been adopted in the latest big library to be built in England. No doubt it owed its choice to the fact that it provided a quicker service of books between the stack and reading room. Both types were exemplified in the designs submitted. One expected to see the great general reading room centrally placed, for purposes of control and in order to be in the quietest position, also to see it suitably expressed externally. Most competitors had seized upon those obvious facts. With regard to external expression, they tended towards over-emphasis. In a library design one would also expect to see well-fenestrated façades, but that was not so general. Except for the exhibition galleries, perhaps, unless the exigencies of the site demanded it, top light was undesirable in a library. Yet many competitors had adopted it unnecessarily, sometimes merely to obtain the external effect of blank wall space.

"Ibi" (Mr. R. H. Matthew, whose design is illustrated on pages 49 and 51) gained the award with the following scheme:—A good straightforward plan on axial lines. The general reading-room was centrally placed, and the exhibition galleries formed a circulation between it and the smaller reading-rooms. Personally, said the lecturer, he would not interrupt the way through from the entrance hall to the exhibition galleries with such a large stair, which merely led to cloak-rooms. In Europe the colonnades on the flanks served no purpose other than to darken the interior. In the absence of further sections he was doubtful as to the efficient lighting of the reading-rooms on the flanks. The stack was placed beneath the reading-room, and it was at once apparent that it had no hope of natural daylight. The section of the reading-room was somewhat overwhelming and more than a little heavy in treatment. Here the designer had mitigated the use of top light by the addition of high side-lighting. The elevation was somewhat brutal in its attempt to achieve the monumental. He had foresworn all cornices and rigorously "shingled" his building. He could not foreswear the use of columns, but here again he brought the axe to bear and decapitated them. Taken as a whole, however, it was a strong, masculine and competent solution of the programme and an easy winner. The draughtsmanship was good. The simple rendering was a refreshing change from the more elaborate methods usually adopted in the Soane competition.

Two hundred candidates took part in the preliminary competition for the Tite prize, of whom 23 were admitted to the final competition, 22 sets of drawings being received. The programme indicated that an author, with an appreciation of the architecture of the Italian Renaissance, desired to erect a retreat for the housing of his library and for the purpose of working in seclusion. It was proposed that this building should be erected on an eminence in a picturesque Italian garden. The site had a gentle slope, and the lay-out accompanying the retreat might include terraces, fountains and pools. The retreat should comprise a large loggia, a large library, a private study, two bedrooms with bathroom and w.c.s, and a small kitchen. Quite a number of competitors, so to speak, had lost marks because they had made the retreat too pretentious, which showed that they had not grasped the problem or that they knew far more about authors than the jury. The programme *did* point out, however, very definitely, that the prize was awarded for the study of Italian architecture (not cypress trees), and that competitors must direct their attention to correct classical detail and the study of profile, mouldings and ornament. It was a cunning scheme to ask for full size details. They sounded easy, but had "found out" many competitors.

"Rodilardus" (Mr. C. J. Searle) won, and his scheme showed a quiet and refined use of detail, though not without its faults. Remembering the prize was awarded for the study of Italian architecture, one could appreciate the jury's decision, but, said the lecturer, the general ensemble was more reminiscent, in its rather four-square formation, of the average villa. But there was a definite sense of scholarship about the design. When he saw, said the lecturer, the preliminary schemes for the Tite, he was impressed by the fact that the drawings of many candidates represented attempts at poster design or scenery painting, and the architecture was rather slight. That tendency had followed some through into the final competition. Now, by all means, serve up designs in the most delectable manner possible, as long as a purely pictorial presentation did not take up time to the detriment of architectural study. Everyone knew what fun it was to produce a nicely rendered drawing. But he thought that the jury had shown that simplicity in that direction was no bar to winning competitions.

Eight sets of drawings were submitted in the Measured Drawings prize. The jury had first to make up their minds on a matter of principle. Which was the better? (1.) A thorough record of one well-chosen subject, or (2.) a miscellaneous collection of unrelated details? He considered, said the lecturer, that they had quite rightly voted for the former, and the prize was gained by "Resurgam" (Mr. Cecil Brown) with some splendid drawings of a familiar subject. They were some of the finest examples of meticulous, mechanical draughtsmanship that he had ever seen, and well repaid a close inspection. The labour involved must have been stupendous. "Alfa" (Mr. H. Bennett) had put forth a strong challenge to the winner. He, however, fell into the second category of those mentioned above, and might have done better to have concentrated his energies in one particular direction rather than include so many scattered subjects.

In the Owen Jones Studentship, six sets of drawings were received. The decoration of the lounge and bar of a small but wealthy flying club in the South of England was called for. "Luds" (Mr. Lawrence Wright) won with a most exciting scheme. He had certainly pervaded his design with a definite aeronautical atmosphere. The sheer ingenuity of his design had been sufficient to outweigh a certain restlessness in his colour. It was interesting to note that his decorative scheme was largely obtained by the use of materials and not with paint. His report was very good and complete. The furniture was designed and described.

It was good to see a much better entry this year for the valuable Alfred Bossom Studentship, and to see, also, the standard so high. Eleven sets of drawings were submitted. The subject set was a block of shops and offices in a large town. This was a sterner task than the purely "design" competitions, because the competitor was required to submit a report upon the financial justification of his scheme. He was glad to see the number that had faced up to that problem because the ability to do that was becoming more and more a necessary part of an architect's equipment. Some schemes showed a return on capital of a little over 6 per cent. At least 10 per cent. would be required to attract investors. A defect which ruled out a number of entries was a loss of valuable space in corner shops, due to placing staircases in this position. "Prop," "Garnet," and "Mardon" all ran closely for first place, "Prop" being the ultimate winner. "Mardon" received a well-deserved silver medal. "Prop" (Mr. W. Valder) gained the award chiefly on the superior lighting of the offices facing the court, and his arcade was better.

Six sets of drawings were received in the competition for the Grissel Gold Medal, a prize awarded for the study of construction. But it did not merely stop at that. Construction was so closely bound up with architectural design that competitors were judged also on their planning and elevational treatment. The subject was a market hall in a country town, and "Ewil" (Mr. J. Hughes) won with a good straightforward plan. His public entrances were good, although the stalls abutting on the side walls tended to cause congestion in the doorways. Perhaps a rearrangement of the aisles would assist this. There was not much latitude there, however, because the programme called for somewhat more than half the floor space to be devoted to stalls. Elevationally the scheme did not reflect its purpose; it was more like a power-house or small railway station.

The Arthur Cates Prize this year was awarded for the promotion of architecture in relation to town planning. A scheme was required for a bridge head in a large city connecting with an important shopping street. Four designs were submitted, and Messrs. R. H. Matthew and Basil Spence were bracketed equal and shared the award. Mr. R. H. Matthew had a generous lay-out and a fine promenade by the riverside. His traffic was very well handled. He had

handled his levels well, but how about the unfortunate pedestrian? If he could cross the embankment in safety, there was no evidence of it on the drawings. Mr. Spence had very good traffic arrangements, but the lay-out of his buildings on the river bank (hotels and flats) did not seem convincing. He formed a great circus at the junction of his shopping street.

Eighteen essays were received in the Essay Prize, and it was pleasant to tell that the essays were well above the usual standard. Entrants for this prize had first to realise that the intention was to produce an *essay*. Therefore, mere catalogues of facts, however praiseworthy as a contribution towards architectural knowledge, did not fill the bill. There were two outstanding essays, those by "Byzes" and "Bomba." "Byzes" (Mr. H. Bagenal) won the prize, and "Bomba" ran a close second, and deservedly received an hon. mention. "Byzes'" essay, in spite of a weak start, was a fine effort, charmingly illustrated, his subject being "Sculpture Galleries." He showed a good knowledge of his subject and marshalled his facts well.

One set of drawings and testimonials was submitted by Mr. G. A. Jellicoe for the Neale Bursary, and gained the award for his valuable research work on gardens.

Mr. W. H. Ansell, F.R.I.B.A., in proposing a vote of thanks to Mr. Berry Webber, said that the critic's lot was not an enviable one, for he stood between the competitors and the jury. By the time he had acted as that go-between, he wished also that he had been entrusted not only with the criticism, but with the award as well. Mr. Berry Webber's criticism had been masterly, and his comments would, it was certain, spur competitors on to further efforts, for those criticisms had come from one who had scored brilliant personal successes in open competitions.

Mr. W. Curtis Green, A.R.A., seconding, said that behind the humour of Mr. Berry Webber's words lay a crystal clearness in getting down to the hard facts with which the profession was concerned. He (the speaker) had, on several occasions, been an "also ran" in competitions which Mr. Webber had gained. Mr. Webber had produced great plans; one day he would give them great buildings.

The vote of thanks was very heartily accorded, and, after Mr. Webber had responded, the meeting closed.

The Awards.

Following is the prize list:—

The Tite Prize: A Certificate and £50 for Design (for the study of Italian Architecture).—Subject, "An Author's Retreat," C. J. Searle (A.A. Schools). Certificates of Honourable Mention:—C. P. Saurin (School of Architecture, University of London); W. Blair (Liverpool School of Architecture).

The Soane Medallion and £150 for Design.—Subject, "A National Library in a Capital," R. H. Matthew, A.R.I.B.A. (School of Architecture, Edinburgh College of Art).

The Owen Jones Travelling Studentship and £100 (study of ornament and colour decoration).—Subject, "The Lounge and Bar of a Flying Club," L. Wright, B.Arch. Liverpool, A.R.I.B.A. (Liverpool School of Architecture). Certificate of Honourable Mention:—R. Y. Goodden (A.A. Schools).

The Royal Institute Silver Medal and £75 for Measured Drawings.—C. Brown (Westminster School of Art). Certificate of Honourable Mention:—H. Bennett (School of Architecture, University of Manchester).

The Royal Institute Silver Medal and £50 for an Essay.—H. Bagenal, A.R.I.B.A. (School of Architecture, Architectural Association, London), for an essay on "Sculpture Galleries." Certificate of Honourable Mention:—W. Holford, B.Arch. Liverpool (Liverpool School of Architecture), for an essay on "The Great Baroque Masquerade."

The R.I.B.A. (Alfred Bossom) Travelling Studentship: Gold Medal and £250 (the study of Commercial Architecture in America).—W. Valder, A.R.I.B.A. (School of Architecture, University of Sydney, School of Architecture, University of London). Silver Medals:—J. A. Cosh, B.Arch., A.R.I.B.A. (School of Architecture, University of Sydney), and T. A. Jeffryes (Edinburgh College of Art).

The Grissell Gold Medal and £50 (for the encouragement of the Study of Construction).—Subject, "A Market Hall in a Country Town," J. Hughes, B.Arch. Liverpool, A.R.I.B.A. (Liverpool School of Architecture).

The Neale Bursary, £70 (for the encouragement of the study and measurement of old buildings).—G. A. Jellicoe, A.R.I.B.A. (A.A. Schools).

The R.I.B.A. Hunt Bursary, £50 (for the encouragement of the study of Housing and Town Planning).—Not awarded.

The Arthur Cates Prize: A Sum of £50 (offered in 1931-32, for the promotion of Architecture in relation to Town Planning).—Awarded jointly to R. H. Matthew, A.R.I.B.A., and B. Spence (both of School of Architecture, Edinburgh College of Art).

The Ashpitel Prize, 1931 (awarded to the candidate who has most highly distinguished himself among the candidates in the Final Examinations of the year).—A. D. R. Caröe, A.R.I.B.A. (Royal Academy and A.A. Schools of Architecture).

The Athens Bursary, £100 (for study in Greece).—E. R. F. Cole, F.R.I.B.A. (Liverpool School of Architecture).

The R.I.B.A. Silver Medal and £5 in Books, for Schools of Architecture recognised for Exemption from the Final Examination (awarded for the best set of drawings submitted at the annual exhibition of designs by students of Schools of Architecture recognised for exemption from the R.I.B.A. Final Examination).—B. Spence (School of Architecture, Edinburgh College of Art).

The R.I.B.A. Bronze Medal and £5 in Books, for Schools of Architecture Recognised for Exemption from the Intermediate Examination (awarded for the best set of drawings submitted by students of Schools of Architecture recognised for exemption from the Intermediate Examination).—R. A. Sneeton (Birmingham School of Architecture).

The R.I.B.A. Prizes for Public and Secondary Schools.—(*a*) Essays: Prizes of 14 guineas to D. B. Peace (Mill Hill School), and L. Whitworth (Rock Ferry High School for Boys). (*b*) Sketches: A. prize of 3 guineas to N. E. Block (Whitgift Middle School, Croydon); prizes of 2 guineas each to J. F. Walter (Uppingham School, Rutland), and J. A. Ashworth (Manchester Grammar School).

The competition drawings are on exhibition in the R.I.B.A. Galleries, 9, Conduit-street, W.1, until January 23, 1932, inclusive, between the hours of 10 a.m. and 8 p.m., Saturdays 10 a.m. and 5 p.m. (Sundays excluded).

COMPETITION NEWS

R.S.P.C.A. Sculpture Competition.

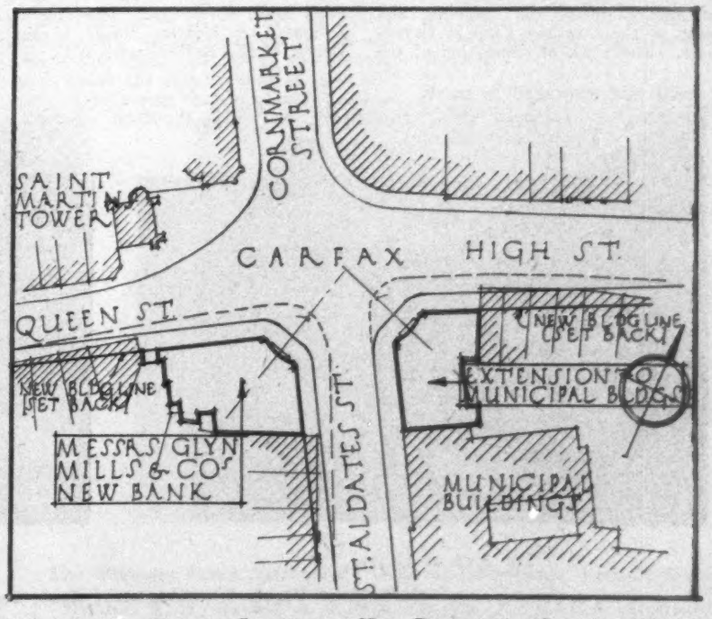
We illustrate on page 44 the design winning the first prize in the R.S.P.C.A. War Memorial Competition—won by Mr. F. Brook Hitch, A.R.B.S. Mr. F. J. Blundstone, A.R.B.S., and Mr. T. J. Clapperton, A.R.B.S., were placed second and third respectively. The competition was for the preparation of a sculptural scheme, to decorate a house of two floors, indicative of the objects of the Royal Society for the Prevention of Cruelty to Animals. An essential was that the sculpture should be capable of being removed if necessary, the property being held only on lease.

Southampton New Girls' School.

The assessor, Mr. Sydney Tatchell, V.-P.R.I.B.A., has made his award in the open competition for designs for a new school on a site at the corner of Hill-lane and Bellemoor-road, Southampton. Messrs. H. Clifford Hollis, A.R.I.B.A., and F. Amott, P.A.S.I., 34, Paternoster-row, E.C., 1st; Messrs. Charles B. Pearson, F.R.I.B.A., and Son, 18, Dalton-square, Lancaster, 2nd; Messrs. Symington and Prince, F.R.I.B.A., 1, West-street, Leicester, 3rd. Premiums offered were: £150, £100, £50.

COMPETITIONS OPEN.

	Particulars published in "Builder."	Sending in date.
Proposed new Municipal Offices for Norwich T.C. Mr. Robert Atkinson, F.R.I.B.A., assessor. Premiums of £500 for first design and £700 amongst next three. Conditions from Mr. Noel B. Rudd, Town Clerk, Guildhall. Dep. £1 1s.	Aug. 7	March 1
R.I.B.A. new premises. Assessors, Messrs. E. Atkinson, Charles Holden, H. V. Lanchester, P. S. Worthington, and Sir Giles Scott. Premiums, £500 and £750 among runners-up. All questions must reach the Secretary, 9, Conduit-street, W.1, by August 4	April 10	March 31
For designs for new Town Hall and Municipal Buildings, for Walthamstow T.C. Mr. H. Austen Hall, F.R.I.B.A., assessor. Premiums, £500, £300, £200 and £100. Conditions from Mr. F. C. Garner, Clerk, E.17. Dep. £3 3s.	Sept. 18 Sept. 4	March 31
Designs for Bank Façade in granite, organised by Cornish Quarry Masters' Association. Open to "A.A." members only. Messrs. A. B. Knapp-Fisher, C. Lovett Gill and V. O. Rees, FF.R.I.B.A., assessors. Prize £50. Details from Sec., "A.A." 34-6, Bedford-square, W.C.	Jan. 1	March 31
Design for all-British house to cost £1,000 exclusive of site and architect's fees. Premiums of 50, 20 and 10 guineas. Conditions from organisers Incorporated Association of Architects and Surveyors, Wilbraham-place, S.W.1	Nov. 20	Sept. 1



THE CARFAX, OXFORD: LAY-OUT OF NEW BUILDINGS. (*See page* 104.)

Nettlestead Place, Wateringbury, Kent, before conversion. (See page 62-3).

MR. P. MORLEY HORDER, Architect for conversions.

ILLUSTRATIONS

PLATES.

"The Builder" Calendar; "Unilever House."

Our Calendar this year is illustrated by a pencil drawing, by Mr. Joseph Pike, of "Unilever House," which is nearing completion at the head of Blackfriars Bridge. The design and plans upon which the scheme is based were prepared by Mr. J. Lomax Simpson, architect and managing director of Lever Bros. Sir John Burnet, Tait and Lorne are the architects. A special description of the building is given on page 96.

"Feast of the Blessed Virgin; a Fantasy of the 15th century, circa 1480."

"Visions of the days departed,
Shadowy phantoms filled my brain;
They who live in history only
Seemed to walk the earth again."

This imaginary scene, drawn by Professor A. E. Richardson, F.S.A., is based upon the character of the cities and cathedrals of Northern France and the Netherlands. The stage is set in the market place of a mediæval city. The canopied hearse containing a statue of the Virgin with kneeling figures is about to be carried shoulder high through the principal streets. A way is being cleared by the herald; priests swinging censers and carrying sacred emblems head the procession; bishops and clergy follow behind the hearse. The sketch is purely fantastic, and does not represent any existing cathedral.

College of Nursing and the Cowdray Club.

Our drawing shows the extension of the College of Nursing in Henrietta-street to Cavendish-square, with the refacing and heightening of the Cowdray Club in Cavendish-square. The work of demolition of the existing buildings upon the site will be commenced immediately so that building operations can follow. The whole character of the extension will be the same as that in the existing college and will be to designs by Sir Edwin Cooper, A.R.A.

The Cumberland Hotel, Marble Arch, W.

This new hotel, for Cumberland Hotels, Ltd., when completed in 1933, will have 2,000 bedrooms, each self-contained with its own bathroom, lavatory and lobby. Every conceivable device to ensure comfort and speedy, silent service will be installed, so that the hotel will be one of the most up-to-date in Europe. The public rooms, dining-rooms and winter garden will be on the ground floor and basement. Elaborate arrangements are being made to ensure adequate ventilation. In warm weather the air will be cooled by large centrifugal refrigerating machines. It will be the first time that machines of this type have been used in an hotel in this country. In all, some 15,000 tons of steel have been used. The architect is Mr. F. J. Wills, F.R.I.B.A., and Messrs. Holloway Bros. (London), Ltd., were general contractors for foundation work and superstructure.

Amongst the principal sub-contractors are:—Greenham Demolition Co., Ltd., demolition: Dorman, Long and Co., Ltd., steelwork; The Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt; Diespeker and Co., Ltd., constructional floors; The Carrier Engineering Co., Ltd., air conditioning, refrigerating and ventilating equipment; Waygood-Otis, Ltd., lifts—passenger and service; Express Lift Co., Ltd., lifts—luggage and goods; Dent and Hellyer, Ltd., plumbing; J. Jeffreys and Co., Ltd., heating and hot water supply; and Holloway Bros. (London), Ltd., stonework. The steelwork was designed by Messrs. Reade, Jackson and Parry, of 26, Bedford-row, W.C.

The Carfax Improvement, Oxford.

The drawing illustrated clearly shows the considerable improvements and road widening now being carried out as part of the Oxford town-planning scheme at the S.W. and S.E. corners of the most important cross-roads in Oxford—Carfax being the meeting place of the four main streets of the city. The building at the S.W. corner, now in course of erection from the designs of Messrs. H. V. Ashley and Winton Newman, FF.R.I.B.A., is a bank for Messrs. Glyn, Mills and Co., in late Gothic style in keeping with the architectural tradition of the mediæval city. This site has interesting historical associations. On it, from the 13th century, stood an inn or tavern known at different periods as the "Swyndlestock," the "Mermaid" and the "Fleur de Luce" (a flagon was found during excavations bearing the mark of the "Mermaid"), and it was here on the Feast of St. Scholastica the Virgin, in 1354, that the great conflict between the University and the city originated, for which penance is still rendered. The building on the S.E. corner (see page 103) is planned as an extension to the adjoining Municipal Buildings, and is being carried out by Mr. H. F. Hurcombe, L.R.I.B.A., the City Estates Surveyor, in collaboration with Messrs. H. V. Ashley and Winton Newman, who have designed the elevations to harmonise, as far as possible, with those of the bank building. The contractors engaged on these buildings are both Oxford firms; Messrs. Benfield and Loxley, Ltd., are carrying out the bank building, while Messrs. Hinkin and Frewin are engaged on the extension to the municipal buildings.

The perspective drawing is by Mr. J. D. M. Harvey, and was exhibited in the last R.A. Exhibition.

"The News of the World" Building.

A special description of this building begins on page 91. The architect is Mr. A. Alban H. Scott, F.R.I.B.A. A list of those firms connected with the work commences on page 106.

"Vincent House," Westminster.

"Vincent House," Vincent-square, Westminster, occupies an attractive site facing the ten acres of tree-bordered playing fields of Westminster School. The building contains seven floors, with a total area of approximately 31,260 sq. ft. The elevation is faced with faience. The site has a frontage to the playing fields of 113 ft. 6 in., and a depth of approximately 70 ft., whilst the total height to the roof level is about 75 ft. Only the ground floor extends the full depth of the site, the upper floors being set back about 25 ft. in order that the existing buildings in the rear should not interfere with the light in

TOP END OF CHAPEL.

LOWER END OF CHAPEL.

Nettlestead Place, Wateringbury, Kent, before conversion.

MR. P. MORLEY HORDER, Architect for conversions.

The Masonic Peace Memorial: A Column Cap.

the offices on these floors, whilst the rear portion of the ground floor is amply lit by means of roof lights, the curbs to which are constructed of reinforced concrete. The building consists of seven bays, three equal bays of 16 ft. 3 in. at either end and a central bay of 14 ft. 6 in. "Hollocast" beams, which are generally 8 in. thick, span the full width of the bays and are supported on the haunching of the R.S.J.'s. An interesting feature of the work is the adoption of "Hollocast" beams for the slope of the mansard roof, with reinforced concrete cheeks and roofs to the dormer windows, the slope being finished with brown tiles of a pleasing shade. The building will be warmed throughout by the latest system of radiant electric heat transmitted through panels in the ceilings, with thermostatic control in every room to ensure uniform temperatures.

The general contractors were Messrs. F. G. Minter, Ltd., of Putney, and the sub-contractors were as follows: London and Wales Steel Construction Co., Ltd., steelwork; "Hollocast" floors, designed by Indented Bar and Concrete Engineering Co., and executed by Girlings Ferro-Concrete Co.; Leeds Fireclay Co., Ltd., faience facing; Grovebury Brick Works Co., facing bricks; Roberts, Adlard, Ltd., roof tiles; Malcolm McLeod, Ltd., reinforced concrete staircase; Frederick Jukes, handrail; S. W. Farmer and Son, Ltd., external iron staircase; James Gibbons, Ltd., metal windows (front); Williams and Williams, Ltd., metal windows (back); Charles Walker and Co., marblework; Carter and Co., floor tiling; Leeds Fireclay Co., Ltd., sanitary fittings; Haywards, Ltd., lantern lights; Etchells, Congdon and Muir, Ltd., lift; Berkeley Electrical Co., Ltd., electrical heating and lighting; F. G. Minter, Ltd., "Decorations," rubber flooring; R. Burt, plastering; Mitchell Bros., wood block flooring; Ragusa Asphalte Co., asphalt; A. Goldstein, glazing; Nettlefolds, ironmongery; British Challenge Glazing Co., lean-to lights; G. Wimpey, roadway to forecourt; J. A. King, Ltd., ferro-glass roof lights.

The architects are Mr. F. P. M. Woodhouse, A.R.I.B.A., and Mr. Adrian Gilbert Scott, F.R.I.B.A., Sir Giles Gilbert Scott, R.A., F.R.I.B.A., being the consultant architect. The consultant engineer was Mr. S. W. Budd, A.M.Inst.C.E.

Liverpool Cathedral.

Our illustration shows the progress made to date with the Cathedral. Sir Giles Gilbert Scott, R.A., is architect. The Liverpool Cathedral Builders' Quarterly Bulletin, reviewing the progress made in 1931, states that it included the building of the transept arches and the heads of the transept windows; the partial joining up of the old and new portions; the construction of the huge wooden platforms covering the whole area of the new section; and lastly, the setting in position of the centering for the vaults of both arms of the transept.

"Newcastle House," Lincoln's Inn Fields.

Our illustration shows this late 17th-century house as now reconstructed, subsequent to the discovery, nearly two years ago, of severe fractures in, and bulging of, portions of the brickwork "skin." The original building was erected in 1686 to designs by Captain Winde, a pupil of Sir Balthasar Gerbier, and followed somewhat the domestic work of Wren. During the succeeding centuries, various changes were made, both externally and internally, and when a survey of the building in 1930 revealed its dangerous condition, the present owner decided to rebuild the frontage in as far as might be expedient to Winde's original design, of which several engravings exist. Red bricks with stone quoins, with hand-made, sand-faced tiles to the steep-pitched roof, have been used, and the result forms a pleasant relief to the Palladian buildings in the Inigo Jones style which form the remainder of the west side of the square. The unusual proportioning of the first floor windows (nearly three squares), which were of Winde's design, should be especially noticed.

The architects for the reconstruction were Mr. Dendy Watney, P.-P.S.I. (Messrs. Daniel Watney and Sons), and Sir Edwin Lutyens, R.A., in association. Messrs. Holland & Hannen and Cubitts were the contractors for the work. It is interesting to note that office work was carried on inside the building during the period of rebuilding.

Nettlestead-place, Wateringbury.

Nettlestead-place, Wateringbury, as restored and converted by Mr. P. Morley Horder, suggests what a pleasing habitation has been evolved from the old buildings remaining at Nettlestead-place. What exactly has been done is not clear, in the absence of the architect's description; but illustrations show that he has built up, with some incorporation of an old interior, a charming modern house.

Buildings at Bryanston School, Dorset.

We give views of the sanatorium, headmaster's house and tutors' houses at this school, built to designs by Sir Edwin Cooper, A.R.A. The tutors' houses were designed for cottages, but were later converted for the use of married tutors. The whole of the work has been built upon simple lines, with local materials, and was carried out by Messrs. Trollope and Colls, Ltd., from the Dorking branch, under the direct charge of their Mr. Lacey. The heating for the sanatorium was by Messrs. Mumford, Bailey and Preston, Ltd.

Third Church of Christ Scientist, Curzon-street, W.

We give a view of the main entrance of the Third Church of Christ Scientist, in Curzon-street, W. The architects for the newly-added tower were Messrs. Lanchester & Lodge, FF.R.I.B.A.

House near Cannes, A.M., France.

This house may be described as "An Essay in the Provençal Manner." It has been built by Mr. Oliver Hill, F.R.I.B.A., for an American owner, on the crest of a hill between Cannes and Mougins. The site is wooded, and the top needed blasting away to form a level platform, the stone thus recovered being utilised for the walling of the house.

The house is placed "straddlewise" across the top, the ground falling in all directions, except for the level platform to the south. A panoramic view of the Mediterranean lies to the south, with the Esterel mountains to the west. On the north side a fan-shaped forecourt is arranged, with the north-east corner left open to embrace a distant view of the Alps and the Gorge du Loup. The library and loggia were staggered forward to form a wind-screen to the south-east. The colour of the stonework, which is of volcanic origin, is a pinky-grey, and the roof is covered with old Provençal tiles, with the eaves constructed of oversailing courses in the traditional manner. The casement windows are mostly steel for the main rooms, and walnut for the remainder. The principal doors are of walnut, with varyingly designed wrought-iron hinges and door furniture. The staircase hall has a floor of local pinky-grey marble. The stairs and gallery are in Arles stone. The carved newels are in grey oak, and the wrought-iron balustrading is painted blue-grey. The boudoir and sitting-room floors are of oak, in wide widths. The boudoir ceiling is vaulted and has a raised hearth for charcoal burning. The main sitting-room has the dado, the two traversing arches, fireplace and door-cases of local stone. The flat ceiling is constructed of massive oak beams, counter beams, and filling boards. The dining-room floor is of Swedish green marble and has a vaulted ceiling, Arles stone traversing arches, window linings and fireplace. The library fireplace is of Arles stone, with a panelled stone and brick floor. The flooring construction throughout is of reinforced concrete, the upper floors being laid with small bricks and quarry tiles in various designs. The house is heated with oil-burning heating apparatus. A dam from a stream at the foot of the hill feeds the water tower. This was constructed with masonry walls, inside which the reinforced storage cylinders were built up. The whole of the work was carried out under the direction of the owners, Mr. and Mrs. T. A. Scully, by M. Barnathan, ingenieur-constructeur, of Mougins.

House at Sandwich Bay, Kent.

This house was designed for a site overlooking the Royal St. George's Golf Links.

The Masonic Peace Memorial: Coat of Arms over Temple Doorway.

MESSRS. H. V. ASHLEY & WINTON NEWMAN, F.F.R.I.B.A. Architects.

It is externally faced with flint and laced with little red bricks, the local traditions being still further perpetuated in the design of the porch gable, reminiscent of many old Flemish touches in Sandwich and its locality. The plan calls for little comment. Slightly unusual features are the provision of a bedroom suite on the ground floor, and the fact that the dining-room runs up through two stories. The perspective drawing is by Mr. T. Raffles Davison. Messrs. Baillie Scott and Beresford are the architects.

The Masonic Building, London, W.C.

This view of the Masonic Peace Memorial building in Great Queen-street, W.C.2, designed by Messrs. H. V. Ashley and Winton Newman, FF.R.I.B.A., was taken from Long Acre and gives some indication of the monumental nature of the design. The majority of the buildings in the immediate foreground are being demolished to form a *place*.

Housing Scheme for the Housing Association for Officers' Families, Morden.

The old bricks and materials of the early Victorian house which stood in these pleasantly wooded grounds were used in the block of flats on the site of the old stables. The various blocks of flats and houses have been set out so as to avoid the minimum loss of trees, with due regard to aspect and economy of road approaches. A definite standardisation of windows, doors and materials has been achieved without the feeling of monotony.

To qualify for a subsidy the houses had of necessity to be stereotyped, but the quadrangular form of the blocks assisted in breaking up the forms. The standardised lines have been interrupted by definite features. The ridge lines of the roofs throughout have been kept level and the sloping site has been filled and held by a fine retaining wall linking up the ends in the main block and forming a fine, open south court. The bricks throughout are ordinary London stocks, with hand-made roofing tiles. The block to the road was to have had a walled court. Without this, the external steps leading to the upper flats seem to stand out abruptly against the unfinished wall. Mr. P. Morley Horder is the architect.

Church of the Holy Name, Manchester:

Completion of Tower.

This work, starting from a height of 90 ft. from the ground, was complicated by the limited amount of weight it was considered advisable to place upon the old walls, built some 50 years ago. It was found necessary to examine, and in places to underpin, the tower foundations and the addition of two new buttresses to the eastern piers enabled the latter to be examined all the way up.

It was also found necessary to carry the whole of the eastern wall of the tower on a reinforced concrete beam (some 10 ft. deep) so as to avoid placing any weight on the existing 40-ft. span arch below, and a reinforced concrete ring was carried all round the base of the new work to distribute the weight evenly.

The tower was designed so that it could be built with as thin walls as possible, to keep down the weight; the turrets at each angle enabling diagonal reinforced concrete ties to be introduced all the way up. The whole work was carried out from scaffolding cantilevered out from the old work, and served by a three-legged crane and jib with its platform some 125 ft. above the ground. Externally the new work is faced with Bramley Fall stone. Robert Carlyle and Co., Ltd., of Old Trafford, Manchester, were the contractors, the reinforced concrete work being designed and supplied by the Trussed Concrete Steel Co. The whole work was carried out without injury to any workmen, despite several severe gales during the progress of the work. The tower, fronting on to Oxford road, now forms a prominent landmark in Manchester, and when viewed from the surrounding streets gives quite a cathedral atmosphere to the district. A carillon of bells has just been installed by Messrs. Gillett and Johnston, of Croydon, and music specially composed for these was recently broadcast by the B.B.C. A pair of jackdaws was also installed in the tower to add to the cathedral atmosphere, but the local pigeons, resenting this intrusion into their domain, killed them off at once. The central arch and Calvary can be flood-lighted from the gallery below.

The architect for the new work is Mr. Adrian Gilbert Scott, F.R.I.B.A.

Cottage at Walton-on-Thames.

This is an attempt to obtain in the most economical fashion a scale of accommodation which is nowadays in demand. The ground floor comprises a roomy lounge, with a smaller room for meals, the kitchen premises being compact and convenient. On the first floor are three bedrooms and bathroom, and above, in the roof, two good attic bedrooms. The cottage is built in the middle of a wood, which was left undisturbed as far as possible.

"Trunch," Saltwood, Kent.

In the design of this house a typical Kentish tradition is followed on the south front, by oversailing the upper part at each end and carrying the roof through over the whole. The walls are of thin, varied red bricks, and the roofs of plain tiles. The hall is a two-story room with a bay window running up the full height. The dining-room and study were panelled in oak. The site has a steep fall to the south, from which is a fine view over Hythe to the Channel.

"Kirkby Underwood," Esher.

This is a roomy family house, built on the Blackhills Estate at Esher, by Messrs. G. E. Wallis and Sons, Ltd., and comprising three sitting-rooms on the ground floor, four bedrooms and two bathrooms on the first floor, and three attic rooms, with maid's bathroom on the second floor. The external walls are of mottled red bricks, with tile hanging above, and a little oak timber framing. Messrs. Baillie Scott and Beresford are the architects for this and the previous two houses.

Milan Station.

This new station has recently been completed at Milan to the designs of Signor Stacchini, of Milan, who is described as "Architect and Builder." The station was described by Mr. H. S. Goodhart-Rendel, in his recent lecture on "Modern European Architecture" to the R.I.B.A., as "a building that is certainly modern, because it was finished in 1931, that is certainly European, because it is at Milan, and that is certainly architecture, because it shows a great deal of æsthetic choice in its design. It has bravery, it has gusto, it is executed with skill; if it does not look particularly like a station, its architecture at any rate belongs obviously to the railway age. A good deal could be said for it, but I do not believe that anybody will say it now. What anybody would instinctively do now would be to run away from it—unnecessarily, as I think—but that is neither here nor there. This is the sort of thing that the very young architects of Europe have determined that they won't have—and have determined this so nearly unanimously that it is no good arguing about it."

Additions to the G.S.N. Company's Building.

We publish photographs this week of a new front in Muscovy-street to the General Steam Navigation Co., Ltd.'s building, facing the Port of London Authority's Offices, and also of the additional story to the portion facing Byward-street and Trinity-square, providing extra office accommodation, etc. The entire building has been rearranged to an extent and made more efficient for convenient working. Part of the original foundations were carried on the Old London Wall and some parts on foundations in Mark-lane Station on the Underground Railway. The whole of the original building had to be strengthened to carry the additional superimposed load. The services of Mr. B. L. Hurst, M.I.C.E., were called upon in consultation with the architect, Mr. Alfred Roberts, F.R.I.B.A., to effect this.

The general contractors were Messrs. Holland & Hannen and Cubitts, Ltd., and the quantity surveyor was Mr. F. J. Wren, F.I.A.S.

The following sub-contractors were employed:—The Empire Stone Co., Ltd., patent stone dressings to new fronts; Heywood and Bryett, heating; Marryat and Scott, Ltd., lift; Libraco, Ltd., specially designed desks and fittings; The Cashmore Art Workers, ornamental tiling to staircase and lavatories; The Kleine Co., Ltd., hollow brick roofing; The Fawcett Construction Co., Ltd., structural steelwork; and the Acme Flooring and Paving Co. (1904), Ltd., wood block flooring.

R.I.B.A. Prizes.

We illustrate the winning design in the Soane Medallion. This award, for a design for "A National Library in a Capital," was gained by Mr. Robert H. Matthew.

"Dawn at St. David's."

The Cathedral of St. David, dedicated to a saint of whom very little authentic is known, lies in a hollow among the hills of Solva, western Pembrokeshire, in a seclusion not only remarkable for the remoteness of the district, but for the situation in which it stands. Enclosed in a fold of the hills, the little market village—for it is hardly a town—clusters above it, and we have to descend to reach the church in the hollow of the hills. The site may have been chosen to be near the monastery which had existed there many years before. Built in the Transitional Norman style, the east window is a very beautiful example of the period. The larger portion of the existing cathedral is the work of de Leia, and the interior is full of interest and beauty. In 1186 an earthquake occurred, leaving the arcades a good deal out of the perpendicular, and an unusual circumstance is the difference of level in the nave, which has a rise of more than two feet from the west end to the screen. The wooden roof, a great feature of the church of the 15th century, is flat and though beautiful in itself, very much contradicts the character of the architecture, joining very awkwardly where it meets the windows of the west walk. The central tower of the cathedral is a dominating feature, with its somewhat unusual overhang to the upper stage, this portion having been added later in the 16th century.

Without claiming to be the equal of some others, St. David's Cathedral has a character all its own, and is full of historical and architectural interest. It is not, however, our purpose to go into detail of the subject of the drawing, which we reproduce (p. 55). Clustered around the cathedral are the old Palace, with its fine arcading, the gaunt ruins of the college buildings and the old gateway above. In its later years the building fell much into ruin. The Lady Chapel became roofless, and there was the likelihood of complete decay, until a start was made in 1793 towards its restoration, which has been continued ever since. The more complete restoration was carried out by the late Sir G. Gilbert Scott. R. H.

A Stained Glass Window.

This has been designed by Mr. Reginald Hallward for the new Catholic Church at Ingatestone, Essex, planned by Mr. F. Sherrin.

The "News of the World" Building.

A special article on this building is given on page 91. The general contractors were Messrs. Holloway Bros., Ltd., and the following firms were associated with the work:—Dorman, Long & Co., steelwork; H. W. Cullum & Co., flooring and concrete casing; the Invictus Flooring Co., Ltd., flooring and concrete casing; the Middleton Fireclay Works, Middleton, Leeds, white glazed tiling; the General Steel Sash and Casement Co., and the Crittall Manufacturing Co., steel and

bronze sashes; Mellowes & Co., Ltd., patent glazing; James Slater & Co., Ltd., new boilers and heating installation; Custodis (1922), Ltd., boiler chimney; H. J. Cash & Co., Ltd., and Rashleigh, Phipps & Co., electric lighting; the Lamson Pneumatic Tube Co., vacuum cleaning; H. Pontifex & Sons, Ltd., and Tylors, Ltd., sanitary fittings; Mather & Platt, Ltd., sprinklers, drenchers and hydrants; Associated Fire Alarms, Ltd., automatic fire alarms; Macinlop, Ltd., rubber flooring; the British Dolomeut Co., Ltd., floor pavings; the Acme Floor and Paving Co., wood-block flooring; P. F. Joyce, marble paving; Gabriel, Wade and English, sound-proofing material (Tentest); H. W. Cullum & Co., acoustic sound-proofing; Mitchell Bros., "Mascolite" felt for insulating machines; La Brea Asphalte Co., and Limmer and Trinidad Lake Asphalte Co., Ltd., asphalt for flooring and roofing; Carter & Co., Ltd., tiling to lavatories and lavatory partitions and other finishings to walls; Gladwell & Kell, Ltd., iron railings; Butler, Jones, Ltd., bronze tablets; Yannedis & Co., ironmongery; Morrison Quarries Co., steps to main entrance; the Magneta Time Co., Ltd., clocks; Haskins, Ltd., fireproof shutters; Dorman, Long & Co., Ltd., chequer plate floor to machine room; Thos. Lawrence, Bracknell, Bucks, brick facings; the Nine Elms Stone Masonry Works, stonework to Bouverie-street; the Cement Marketing Co., Ltd., cement; Partridges Models, Ltd., and H. H. Martyn & Co., Ltd., model makers; Grano-Metallic Paving and Plastering Co., and J. & P. Wright, plastering; St. Mary's Wharf Cartage Co., Ltd., and B. Goodman, Ltd., demolition; Lap (C.I. Process), Ltd., "Lap" material to main entrance; Matthew Hall & Co., drainage and plumbing; McGruer Hollow Spar Co., flag poles; James Slater & Co., Ltd., and Sturtevant Engineering Co., Ltd., ventilation; B. Goodman, Ltd., and Greenham Sand and Ballast Co., ballast and sand; H. & C. Davis & Co., Ltd., iron hand-rails to staircases, iron railings, Whitefriars-street; D. Sebel & Co., Ltd., guard railings on roofs; Arthur R. H. Maxted, Ltd., fire-escape stairs, wrought-iron grilles, tower staircase; E. Pollard & Co., Ltd., fireproof shutters to lifts; British Luxfer Prism Co., Ltd., pavement lights and "Copperlite" glazing; Gladwell & Kell, Ltd., pavement lights and glazing; James Clark & Son, Ltd., and Alfred Goslett & Co., Ltd., glazing; Silicate Paint Co., "Duresco" distemper; Mander Bros., Ltd., "Aqualine" water paint for offices; Colardo Paint Co., Ltd., "Colardo" fireproof paint; London Brick Co. and Forders, Ltd., Fletton bricks; B. Goodman, Ltd., clearance of earth from excavations; Burn Bros, Ltd., and Bailey, Pegg and Co., cast-iron manholes and drain pipes; Fraser & Ellis, Ltd., cast-iron rain-water gutters, soil pipes; Whitehead Iron and Steel Co., Ltd., steel reinforcing bars; British Steel Piling Co., steel piles; Holloway Bros. (London), Ltd., joinery; Davey, Paxman & Co., Ltd., boilers; Clyde Oil Fuel System, Ltd., oil feed; the Universal Clinker Co., aggregate for "Aerocrete" casing; Pilkington Bros., ordinary glass and plate glass; Wm. Mallinson & Sons, and W. W. Howard Bros., timber for panelling; British Insulated Cables, Ltd., and W. T. Glover and Co., cables for light and power; Siemens Bros., telephone cable; Simplex Conduits, Ltd., conduits; Kartret Switchgear Co., fuseboards and main switches; J. H. Tucker & Co., local switches; M. K. Electric, Ltd., power sockets.

The following Empire timbers were used, the words in brackets being the country of origin:—Editors' room: Indian silver grey-wood (India, Andamans and Burma); managers' room: Indian laurel-wood and Ceylonese ebony (India, Burma and Ceylon); interview room: Potapsco or bird's-eye maple (Canada); board-room: English oak; staircases: Tasmanian oak (Tasmania), crabwood (British Guiana), and Iroko (Nigeria and Gold Coast); entrance hall: Tasmanian oak and black bean (Australasia)

Mr. A. Alban H. Scott, F.R.I.B.A., is the architect.

SOCIETIES AND INSTITUTIONS

THE COLLEGE OF ESTATE MANAGEMENT.

Quantity Surveying.

THE first of two lectures on "Approximate Estimates" was delivered at the College of Estate Management on December 8 by Mr. Hamilton H. Turner, F.S.I., who defined an approximate estimate as a statement of cost prepared by a competent person, such as an architect or surveyor, to give a client some idea of the expenditure to which he would be committed if he decided to proceed with the work shown on the sketch designs prepared in accordance with his instructions. It was important not to make the approximate estimate too low, or the client or architects might refuse to proceed with the job, with consequent loss of fees to the quantity surveyor. The first thing to include was, obviously, the cost of the building, then the cost of roads, paths, fences, boundary walls, drainage, and water supply, also contingencies, possibly the purchase of the site and all legal charges, and, finally, the architect's commission, the quantity surveyor's fees, and the salary of the clerk of the works.

The lecturer described the procedure of cubing a building and then of making the estimate according to so much per foot cube. The different parts of a building might, of course, he said, be priced at a different rate per foot cube. Recently the workshop portion of a factory was estimated at 8d., and the administrative block at 1s. 11d.; in a church, the chancel and nave at 1s. 4d., and the tower at 1s. 9d.; in a school, the dormitories at 2s., the chapel at 1s. 9d., the dining-hall at 1s. 6d., the gymnasium at 1s. 6d., and the sanatorium at 2s. 2d. Many considerations affected the price, such as the style of the building, the level of the site, the furnishing of the interior, the facilities on the ground, the distance from railway station or main road. The size was also important; a small building was more expensive in proportion than a big.

The lecturer gave an analysis of the average cost of four houses recently erected, showing the percentages which had to be proportioned to the various trades:—

	Per cent.
Excavator, concretor and bricklayer	27.0
Drainage work	4.35
Mason	2.75
Tiler	4.75
Carpenter, joiner, ironmonger ...	26.25
Founder and smith	4.0
Plumber, hot water, gas and electric worker	16.25
Plasterer	9.75
Glazier	2.65
Fitter	2.25

He also estimated the percentage of expenditure as between labour and materials as follows:—

	Labour. Per cent.	Materials. Per cent.
Excavator	90 ...	10
Concretor	17 ...	83
Bricklayer	30 ...	70
Mason	50 ...	50
Drainage work	33 ...	67

Bills of Quantities.

IN his second lecture Mr. Hamilton H. Turner, F.S.I., dealt with the subject of bills of quantities and the measurement of builder's work. A bill of quantities, he said, was a document prepared by a quantity surveyor to enable a builder to estimate the cost of building or other work as shown on the drawings and described in the specifications prepared by an architect. It consisted of items which gave in detail the quantities and descriptions of the various materials and labour required to carry into effect the intentions of the architect. A bill of quantities, to be of any use, must be absolutely accurate, and it must be set out in such a way that the builder clearly understood what was meant.

The standard method of measurement in building operations was founded some years ago upon the practice of the leading quantity surveyors. Students, like those he was addressing, unlike the independent surveyor, had no choice in the matter, for it was prescribed that in the examination they must follow the standard method. But it was almost correct to say that no two quantity surveyors were exactly alike in their methods, and it was quite a difficult thing to get a standard for everybody to adopt.

The lecturer then addressed himself to the qualifications which a student must possess to equip him properly to prepare a bill of quantities. He must, in the first place, have a thorough knowledge of building construction, and for this it was important that he should have the opportunity of studying buildings in course of erection. He must know the elementary rules of mensuration, be absolutely accurate to the minutest detail, and have considerable powers of observation. The lecturer laid stress also on the necessity for good writing. He looked upon good writing as an essential to the quantity surveyor, and if he were an examiner he would diminish the marks given to a student if his writing were bad. Another requirement was a large capacity for work of the closest nature.

After showing in detail how a bill of quantities was prepared, the lecturer gave some interesting illustrations from his own experience. One of these was an analysis of the costs of a rod of brickwork at the present time:—

	£	s.	d.
4,300 bricks, at 60s. per 1,000 ...	12	18	0
Unloading at site and stacking, etc. Labourer, 7 hours at 1s. 3d. ...	0	8	9
Three yards cube of sand at 10s. 6d.	1	11	6
One ton of cement	2	2	0
Labour, mixing mortar, 13 hours at 1s. 3d.	0	16	3
Scaffolding, use and waste	0	2	0
Scaffolding labourer, 9 hours at 1s. 3d.	0	11	3
Bricklayer, 57 hours at 1s. 8d. ...	4	15	0
Labourer, 34 hours at 1s. 3d. ...	2	2	6

The total for the rod of brickwork thus came to £25 7s. 3d.

The New Central Station, Milan.

SIGNOR STACCHINI, "Architect and Builder."

VALUATION OF DAMAGE TO ANCIENT LIGHTS

FOLLOWING are details of a suggested method of valuing the damage which may occur to the illumination of a room lighted by ancient lights as a result of the erection of a new building in the neighbourhood. It is taken from an article by Mr. A. S. E. Ackermann, B.Sc. (Engineering), Lond., A.M.Inst.C.E., contributed to the R.I.B.A. *Journal* some time since. The problem enunciated frequently occurs in ancient lights cases. In such cases, the author has heard experienced valuers differ in the witness-box, not by 25 per cent. nor 50 per cent., but by 600 per cent., *i.e.*, the valuation of one was seven-fold that of the other!

The late J. H. Balfour Browne, K.C., at page 195 of his "Forty Years at the Bar," gives instances of land valuations where one was nearly four times the other; and another over six times the other. Hence, anything which can be done to prevent discrepancies of this magnitude, and to place at least certain kinds of valuation on a rational basis, would be an advantage to the Courts, valuers and those who have to pay the sums arrived at.

The author's experience is confined to cases of ancient lights treated by what may be called the modern system, though in fact a rational basis for determining the damage to light was devised by Prof. Robert Kerr so long ago as 1865; isophotal diagrams were plotted by Henri Maréchal in 1894, and Mr. A. P. Trotter devised the sill-ratio in 1896. Several others have worked at and improved the methods since, but it was not until Mr. P. J. Waldram introduced the method (still further improved by his elder son, J. M. Waldram, B.Sc.) to the Court, in Semon *v.* The Corporation of Bradford (1922), that the modern system began to be used regularly. There is no question that it is vastly superior to the procedure formerly adopted by architects and surveyors, which was of necessity little more than an expression of opinion based on totally insufficient and untrustworthy data.

It is now usual to prepare isophotal diagrams, which show the areas reasonably illuminated, and by means of them to measure how many square feet of a room *will be*, or have been, deprived of sufficient light for the ordinary use of the average person by reason of the proposed or actual construction of an obstructing building. These diagrams are necessary for the following method of valuing the damage.

At the outset it should be realised that there are at least two cases in connection with ancient lights when damages or compensation are paid by a servient owner to a dominant owner and/or tenant and that it is chiefly to one of these that the suggested method applies. It may not always apply when a servient owner approaches the dominant owner or tenant with the designs for a building which, if constructed, would damage the illumination in the dominant owner's building to such an extent that if the case went into Court an injunction would certainly be granted, and which injunction would prevent the building being made so obstructive as proposed. Suppose that the loss of height or size would so reduce the rentable floor space of the new building that the loss of the net rent (*i.e.*, allowing for the interest on the capital saved by not building part of the building) would be £1,000 per annum, then obviously it would pay the servient owner to give the dominant owner, say, £5,000 for permission to build in accordance with the servient owner's original design, for the interest on the £5,000 would be, say, £250 per annum, and the servient owner would be £750 per annum to the good. Some such large sums are paid occasionally in cases of mutual agreement, which, consequently, do not go into Court. But if a case goes into Court, then such large sums as damages are unheard of, because the Court is controlled by the appeal case of Shelfer *v.* The City of London Electric Lighting Company, 1895 (since recognised by the House of Lords), in which it was held that (1) if the injury to the plaintiff's legal rights is *small*, (2) and is one which is capable of being estimated in money, (3) and is one which can be adequately compensated by a *small* money payment, (4) and the case is one in which it would be oppressive to the defendant to grant an injunction, then damages in substitution for an injunction may be given. If the equitable sum were large, it would imply that the damage was great, in which case the judge must grant an injunction.

As a fact, the largest sum awarded by the Court that the author has met with was £800 (London and Northern Estates *v.* Howard, 1927), and that in the case of two shops, the rental value of which together was £2,200 per annum, while in another case only £200 was granted for the damage to two offices in Chancery-lane, which were badly lighted to begin with. It will thus be seen how really small the damages are when awarded by the Court, for £800 at 5 per cent. is only £40 per annum, and that in connection with a rent of £2,200 per annum.

The method of calculating the damage which is about to be described is chiefly applicable to cases in which a judge would not grant an injunction, but would award damages instead. The principle which has suggested the method hereinafter described is that, when a tenant agrees to pay a certain rent for an office, he probably considers, consciously or not, what part of it is sufficiently lighted for his requirements, and is willing to pay a certain rent for that, and values the darker portion at a much lower rate, or looks upon it as so much thrown in, and for which he may find some use. Thus, if he is, at some subsequent date, deprived of, say, 30 per cent. of his sufficiently lighted area, he expects to have his rent reduced (or to receive compensation in lieu thereof) by an amount which is correlated to this, less the value of the added darkened area.

It is not, as a rule, difficult to obtain the cost per square foot per annum of an office, shop, warehouse or room in any given neighbourhood. This information will usually be known to the tenant of the premises affected, unless the room is, say, the kitchen, in which case it would be equitable to allow a higher rent per square foot for it than the average for the whole house. Special use of light is not protected by law.

Assume that the value per square foot of the dark area is, say, 30 per cent. of the value per square foot of the light area of the office; that the latter is worth 10s. per square foot, and that 40 square feet of the light area have been darkened since the tenancy was entered into. Then the annual loss of rental value is 40×10s. less 40×30 per cent. of 10s. = 400 − 120 = 280s. = £14, which annual sum may be capitalised in the usual manner according to the circumstances. So far, the method (not necessarily the prices or percentages) appears to be reasonable for arriving at the reduced rental value of an office not having ancient lights, which formerly had a good light over all of it, but which has been deprived of sufficient light for ordinary purposes over part of its area. In this case a deduction is made for all the darkened area, but the case is different if the windows are ancient lights and the matter goes into Court, because it is the author's experience that if a room is left with not less than half its area (measured at table level, 2 ft. 9 in. above the floor) suitably lighted for the ordinary purposes of life or business, then it is usually considered to be a reasonably lighted room, and accordingly no injunction nor damages will be awarded. Hence the problem takes the following form:—Consider a room, having ancient lights, which is well lighted over its whole area, and that it is let for £100 per annum. If a servient owner constructs a building so as to deprive the said room of half its suitable lighted area, then by the method just described the loss of rental value would be £50 per annum, less the value of the dark area, which has been taken to be 30 per cent. of the rate per square foot for the light area. That is, the dark area would be worth 30 per cent. of £50 per annum = £15 per annum. Thus, the net loss of rental value would be (£50 − £15 =) £35 per annum, but though, in fact, this might be so, no damages would be awarded by the Court for the reason previously stated.

If, however, the servient owner's building does, or will, deprive the room of 60 per cent. of its lighted area, then (as it appears that if a room is left with 50 per cent. of its area within the 0.4 per cent. isophotal line, no injunction nor damages will be awarded) in calculating the loss of annual value which may be claimed against the servient owner, the value of the 50 per cent. must be deducted from the value of the total area darkened by the new building.

Suppose that when the whole room was well lighted the rental value was £100 per annum. The non-actionable damage is, as just shown, £35 per annum, leaving a rental value of £65 per annum, which, presumably, would be the actual rent paid by the tenant if he took the office when half its area was already damaged by insufficiency of light. It is the damage to this actual rent that has to be calculated.

If a servient owner's building cause a total loss of light of 60 per cent. of the whole area of a room, all of which originally had a good light, then the loss of rental value is 60 per cent. of £100 (*i.e.*, £60 per annum) less the value of all the dark area (30 per cent. of 60 per cent. of £100 = £18). That is, the net loss is £42 per annum, and the depreciated rental value is £58 per annum. Thus the servient owner would be liable for the capitalised value of £65 − £58 = £7 per annum.

The following table is calculated by the foregoing method, starting with a room wholly lighted and worth £100 per annum, assuming that the dark area (when there is any) per square foot is worth 30 per cent. of the value of the light area per square foot, and that no claim against a servient owner can be made for a room left with half its area at table level within the 0.4 per cent. isophotal line:—

Dark area per cent. of the whole area.	Rental value.	Net loss of rental value due to the whole dark area.	Loss of rental value for which damages may be claimed.	Damage % on rental value of a half-lighted office—*i.e.*, on £65 per annum in this case.
	£	£	£	
0	100	0	0	0
50	65	35	0	0
60	58	42	7	10·8
70	51	49	14	21·5
80	44	56	21	32·3
90	37	63	28	43·1
100	30	70	35	53·8

If the tenant of the above office has a 17-year lease, and 6 per cent. interest is allowed, then from the usual table it is found that the capitalised value is 10½ years' purchase. If, therefore, the decrease of rental value is £14 per annum (due to a total darkened area of 70 per cent.), the damages to be paid to the tenant would be a lump sum of 14×10½ = £147.

But if, as often happens in cities where the buildings are high in proportion to the width of the street, the room had only 30 per cent. of its area well lighted before the servient owner built his new building, then 70 per cent. of its area was dark. Suppose that the tenant was in fact paying £120 for this room, then from the table opposite—"70 per cent. dark"—we see that the actual rental value is only 51 per cent. of what it would have been if the whole room had been well lighted, so that a rent of £120 per annum for a room 70 per cent. dark means that if it were all well lighted its rental value should be $\frac{100}{51}$×120 = £235 per

annum. As it is most unlikely that the obstructions would ever be removed, the tenant would never be invited to pay this rent, but it is of use to help us to arrive at the desired result, as will be seen later.

If, now, a servient owner builds and increases the dark area from 70 per cent. to 80 per cent. of the whole, he reduces the well-lighted area by 33⅓ per cent. Thus the reduced rental value is :—£235 less 80 per cent of £235+30 per cent. of 80 per cent. of £235=235−188+56.4=£103.4. The actual rent before the servient owner built was £120, and thus he is liable for the reduction of rental value of £16.6 per annum. Take the same room, but let 80 per cent. of it be dark, and that, in consequence, the rent is £103.4 per annum, as just calculated. Opposite "80 per cent. dark" in the table we see the rental value is only 44 per cent. of what it would have been had all been well lighted. Hence, if all were well lighted, the rent would have been $\frac{100}{44}\times 103.4=£235$, as before. If the servient owner increases the dark area from 80 per cent. to 90 per cent., he reduces the light area by 50 per cent., and the reduced rental value is : :—£235 less 90 per cent. of £235+30 per cent. of 90 per cent. of £235=£86.95 instead of £103.4, and the servient owner would be liable in damages for the capitalised value of (103.4−86.95=) £16.45 per annum.

In a recent case, the rent of the whole of a public-house was £95 per annum, but it was the light to the bar only which would be obstructed by the servient owner's proposed building. Say £70 per annum was the rent of the bar, which had an area of 380 sq. ft., and of which 80 per. cent. was originally dark due to the depth (23 ft. 9 in.) of the room and the smallness (22 sq. ft.) of the only window. Thus, there were only 76 sq. ft. of what is usually considered satisfactory light. The proposed building would reduce this to 64 sq. ft.—i.e., a reduction of the lighted area by 12 sq. ft.=15.8 per cent., making 83 per cent. of the room dark.

From the table, the rental value of a £100 room 80 per cent. dark is £44 per annum. Therefore, the retal value of the room, if all the 380 sq. ft. had been well lighted would have been $\frac{100}{44}\times 70=£159$ per annum, and the reduced rental value due to 83 per cent. being dark would be £159−83 per cent. of £159+30 per cent.×83 per cent.× £159=£66.6 per annum, instead of £70 per annum. That is a reduction of £3.4 per annum, or 4.86 per cent. of the rental value. Obviously a small amount, which should have been settled out of Court, and it was in fact held by the Court that no material damage would be done, and, consequently, the plaintiffs' action failed, and they had to pay the costs of the action.

Having so far considered particular cases and shown that they lead to reasonable results we may deal with the general case, and so arrive at equations applicable to all cases of damage of the kinds considered.

Let R be the annual rental value in pounds sterling of an office, all of which is well lighted.
,, A be the area in square feet of the office.
,, r be the actual rent per annum of the office which is partly dark, and which is being paid before any new obstruction is proposed.
,, d be the original dark area in square feet.
,, d^1 be the proposed dark area in square feet.
,, f be the fraction which the value of the dark area per square foot is of the value per square foot of the light area.

Then the rental value is $\frac{r}{R}$ of what it would be if it were all well lighted, and the total annual loss of rental value due to the dark portions is $\frac{d}{A}R-f\frac{d}{A}R$, which may be written,

$$\frac{dR}{A}(1-f). \quad . \quad . \quad . \quad . \quad . \quad (1)$$

while the actual rental value is

$$r=R-\frac{d}{A}R+f\frac{d}{A}R=R\left\{1-\frac{d}{A}(1-f)\right\} \quad (2)$$

in which $f\frac{dR}{A}$ is the total annual value of the dark portion. Equation (2) determines R, r being known, and inserting the value of R in equation (1), determines the loss of rental value due to any one percentage of dark area.

Thus from equation (1) we see that the loss of rental value per annum due to d is $\frac{dR}{A}(1-f)$ while due to d' it is $\frac{d^1R}{A}(1-f)$, and the servient owner's annual liability in £ is the difference between these which is

$$\frac{(d^1-d)R}{A}(1-f) \quad . \quad . \quad . \quad . \quad (3)$$

where $\frac{d}{A}$ is 0·5, *or such larger value as the data in fact give.*

If $f=0{\cdot}3$ equation (3) becomes $0{\cdot}7\,\frac{(d^1-d)R}{A}$.

The value of f is the only arbitrary quantity, the other quantities being matters of fact, but its limiting values do not differ greatly, and it will have been seen that $f=0.3$ gives reasonable results. If the value of f be decreased, the servient owner's liability is increased.

The author suggests that equation (3) gives reasonable and rational results, which at least will not be wrong by three- or four-fold, as some valuations of which he has heard must be.

In regard to the values of R given by equation (2), it may be considered that they are sometimes rather large, but as R is only a means to obtain the loss of rental value and the sitting tenant will not be called upon to pay R, its value need not bother us. If in fact an office were well lighted over its whole area, then some prospective client would be prepared to pay £x per annum for it, and there would be no need to calculate R, for r would then be $=R=x$, and there would be no cause of action.

The application of the method to two recent cases with which the author was concerned shows that the results are far less discrepant than those mentioned in the beginning of this paper. In one case 14 offices were affected, but only seven of these were so darkened as to justify a claim at law. The loss of rent by the foregoing method (the values per square foot of floor space for each floor having been agreed by the other valuer and the author) was calculated to be £128 6s. per annum, which, at 16¾ years' purchase, amounts to £2,135, while the other valuer claimed £3,260, which is £1,125 more. That is, the author's estimate was only 34.5 per cent. less than the claim of the other party.

The following case, dealing with 11 offices in the City, is given in tabular form to show how the monetary damage varies with the increase of the dark area, and also to show the percentage damage to the rental value of each office. The latter will enable valuers to see that the method gives results with which they meet at least sometimes.

In conclusion, the author wishes to thank Mr. George Head, Mr. J. Douglas Scott and Prof. C. L. T. Griffith for the careful manner in which they have considered this paper, and for the useful suggestions which they made, whereby it now appears in its improved form.

Total area sq. ft. A	Value per annum, per sq. ft.	Rent per annum $= r$ £.	d sq. ft.	d^1 sq. ft.	Servient owner's liability per annum. £	Damage %on rental value. r
176	16/-	141	141	156	19·5	13·8
195	10/-	87·5	136	161	15·3	17·5
213	7/6	80	100	160	21·5	26·9
48	7/6	18	12	33	3·6	20·0
68·5	16/-	54·8	34·3	47·4	11·3	20·6
59·2	16/-	47·4	23·9	38·6	7·8	16·5
180	10/-	90·0	102·3	137·9	20·6	22·9
105·8	10/-	52·9	61·8	83·9	19·1	24·7
169	9/6	81·0	74·7	122·4	19·6	24·2
111·2	9/6	53·5	52·2	83·7	14·5	27·1
275	7/6	103·0	118·0	206·5	28·0	27·2
		Total £809·1			Total £174·8	

d is the original dark area in square feet.
d^1 is the proposed dark area in square feet.

LAW REPORT

CHANCERY DIVISION.
Before MR. JUSTICE FARWELL.

CASE OF ALLEGED DAMP.

Glegg v. Coventry.

THIS was an action by Mr. A. L. Glegg, the owner of 13-16, Embankment-gardens, Chelsea, against Mr. T. Coventry, to recover rent under a lease in respect of a basement flat at an annual rent of £85. The lease was for five years from February, 1931. Defendant never went into occupation of the flat.

His defence was that he was induced by alleged misrepresentation to enter into the agreement, and he set up a counterclaim for a declaration that it was not binding upon him, and he further claimed damages.

Mr. Morton, K.C., for the plaintiff, said that owing to the nature of the action it had been transferred from the County Court to the High Court. The defendant claimed damages from the plaintiff in respect of the storage of his furniture and for the expense he had been put to in having to reside with his family in an hotel. The defendant's case was an allegation that a Mr. F. Ward, a building surveyor in the employ of the plaintiff's estate agents, Messrs. Knight & Co., assured the defendant's wife that the dampness in the flat was due only to atmospheric condensation to be expected in a flat which had not been occupied for many months, and that it would disappear as soon as the flat was occupied. The defendant's case was that this was untrue, and that the dampness was due to a defective dampproof course, or from the inundation of the flat when the Thames overflowed during the high tides in the early part of 1928. The plaintiff denied these allegations, and under these circumstances the onus of proof was on the defendant.

The defendant's wife, Mrs. Eleanor M. Coventry, was then called by Mr. Manning, K.C. She stated that she told Mr. Ward that she had a delicate daughter and that her husband was a sufferer from rheumatism, and that it was essential that she should have a dry and healthy flat. When she pointed out the damp, Mr. Ward emphatically denied that it was due to any other cause than atmospheric condensation, and added that it would disappear.

Mr. C. S. Birkett Smith and Mr. Richard Hood, surveyor, gave expert evidence and expressed the opinion that the damp was due to an inefficient dampcourse.

For the plaintiff, Mr. Ward gave evidence, and said it was his opinion at the time of the interview and now that the damp was due to a matter of condensation from the atmospheric conditions, the weather being foggy.

Mr. Percy John Waldram gave evidence and said the allegation that there was no proper dampcourse was entirely without foundation. There was no moisture on the walls when he visited the flat in fine weather, and the fact that the two witnesses for the defendant found damp there was conclusive, in his opinion, that it was due to condensation and was temporary.

Mr. R. M. Pigott, F.R.I.B.A., corroborated the last witness and added that the flat was perfectly dry.

His lordship gave judgment for the plaintiff on the claim for rent, with costs, and he dismissed the counterclaim with costs. His lordship said the whole question here was whether there had been any misrepresentation, as alleged. He had had before him a number of experts, and from their evidence he was satisfied that the sounder view was expressed by the plaintiff's experts. Accepting the evidence of Mr. Waldram and Mr. Pigott, he found, as a fact, that this was not a permanently damp flat, but fit for human habitation, and further, that such damp as was observed was temporary and due to atmospheric condensation. Even if this had not been so, he had not the slightest doubt that Mr. Ward wholeheartedly and honestly believed, and still believed, that the view he expressed to the defendant's wife was an honest opinion, for which he had data to go on and which a reasonably minded surveyor could express.

WAYLEAVES FOR OVERHEAD ELECTRIC CABLES

In these days, when some alarm is expressed in certain quarters at the powers conferred by Acts of Parliament to the prejudice of private rights over land, the decision delivered on December 21 in the case West Midlands Joint Electricity Authority *v.* Pitt and others, and the Minister of Transport *v.* the same, is of considerable public importance. The case is at present reported in *The Times*, November 26 and December 11, 14, and 22, and we can only attempt to give a brief idea of the points raised, especially as it appears that on one point at least there is likely to be an appeal.

Shortly stated, the matter arose as follows: The plaintiffs, the West Midlands Joint Electricity Authority, in order to carry out its duties under their District Order, required to carry overhead lines supported by pylons of varying size over the lands of the defendant landowners, four in number, and consent for the wayleaves having been asked for and refused, as terms could not be arranged, the plaintiff authority, acting under section 22 of the Electricity Supply Act, 1919, applied to the Minister of Transport to give his consent. That section enacts "A joint electricity authority . . . may place any electric line above ground across any land other than land covered by buildings or used as a garden or pleasure ground, where the placing of such lines above ground is otherwise lawful . . . . Provided that before placing any such line across any land the joint electricity authority shall serve on the owner or occupier of the land notice of their intention, together with a description of the nature and position of the lines proposed to be so placed; and if within 21 days after the service of the notice the owner and occupier fail to give their consent or attach to their consent any term and conditions to which the authority objects, it shall not be lawful to place the line across the land without the consent of the Board of Trade" (now the Minister of Transport) "and the Board of Trade may, if, after giving all parties concerned an opportunity of being heard, they think it just, give their consent either unconditionally or subject to such terms conditions and stipulations as they think just . . . ."

The Minister of Transport caused an inquiry to be held, at which the landowners had the opportunity of being heard, and the Minister gave his consent in which, as we gather from the report, the payment of certain annual rentals was prescribed. The action took the form of an application by the Joint Electricity Authority and the Minister for certain declarations that amounted to an affirmation that the course adopted by them was correct, but the defendants by way of counterclaim claimed that the consents were *ultra vires* on the ground that the Minister had no jurisdiction to settle the rentals by way of compensation, as the owners and occupiers of the land were entitled to have the compensation determined either under the Land Clauses Act, 1845, and the Acts amending the same, or under sections 17 and 28 of the Electric Lighting Acts, 1882, as amended by the Acquisition of Land (Assessment of Compensation) Act, 1919.

We may mention here that the rentals allowed were respectively £2 5s. to Mr. Pitt; £7 5s. to Willey Estates Co.; 4s. to Mr. Jackson, and £2 4s. to Mr. Todd, whereas the amounts claimed were, in the order given above, lump sums of respectively £400, £640, £40, and £280. The lump sums appear to have been arrived at, on the application of the defendants to the Reference Committee under the Acquisition of Land Act, by one of the official arbitrators.

The Court, in giving judgment, emphasised the importance of the case, raising as it did the powers of the Minister of Transport on the one hand and the rights of private individuals on the other hand.

The main point was whether section 22 of the Electricity Supply Act, 1919, did contain in sufficiently explicit terms the right of the Ministry to assess the compensation as it was argued that it did so, and further, it was contended that as the Acquisition of Land Act, 1919, was passed in August, 1919, but the Electricity Act in December of the same year, if there was repugnancy between the two Acts the later Act must prevail. It will be remembered that a similar point as regards the Acquisition of Land Act was taken in the case Vauxhall Estates Ltd. *v.* Liverpool Corporation, which we noted in our issue December 11, 1931, in connection with the Housing Acts. It was admitted that a wayleave granted under the Electricity Supply Act, 1919, was "land," and that the canon of construction applied laid down in Central Control Board (Liquor Traffic) *v.* Cannon Brewery Co. (1919 A.C. 744) that an intention to take away or interfere with the property or rights of a subject without giving him a legal right to compensation for the loss thereby sustained was not to be imputed to the legislature unless such intention was expressed in clear and unequivocal language. The Court considered the arguments put forward at considerable length, but came to the conclusion that the expression in section 22 of the Electricity Supply Act, 1919, "terms, conditions and stipulations" did not include pecuniary terms, and that the assessment of compensation did not lie within the province of the Minister of Transport, and therefore that the terms inserted in the consents were *ultra vires*. The point reserved for appeal was whether the Joint Electricity Authority were "a public authority," as on this point the Court was bound by authority that such was the case, and being so bound, it was held that the contention of the defendants was correct and the compensation was to be assessed by arbitration under the Electric Lighting Act, 1882, and the Acquisition of Land Act. From the report at present available it is not quite clear to us what will be the result if it is held on appeal that the Joint Electricity Authority was not a "public authority," but we think in that case the compensation will be assessed by an arbitrator appointed by the Minister of Transport under sections 17 and 28 of the Electric Lighting Act, 1882.

As regards the point we have mentioned above in connection with the Acquisition of Land Act, 1919, the Court observed that if the legislature had intended that the provisions of that Act should not apply to claims for compensation in respect of wayleaves granted under the later Act, it might be expected that they would have said so in express terms.

The Court, though not deciding the point, expressed the opinion that an arbitrator was not bound to award a lump sum in respect of compensation for wayleaves; if the authority sought a perpetual wayleave a lump sum would be appropriate, but if a wayleave was sought terminable at the option of the authority or the landowner, an annual rental seemed the appropriate method and the arbitrator had authority to make such an award.

The importance of the decision lies in the attention it once again draws to the danger of the tendency exhibited in modern Acts of Parliament of subjecting the subject to what has been termed bureaucratic control, a question to which the present Lord Chief Justice of late years has repeatedly called attention. The Attorney-General in this case is reported as having described the Minister of Transport as a sort of super-owner who could give consent if the true owner of the land withheld it, and in cases where the private interest cannot be allowed to interfere with public necessity that may be a reasonable provision, but the contention in this case went further than that; it was claimed that this super-owner not only could give the required consent, but that he could settle arbitrarily the compensation, if any, to be paid to the landowner. It was pointed out by the Court in this case that the section allowed the Minister to give consent unconditionally, and that it was one thing to give a right to compensation enforceable at law and quite another thing to give it at the discretion of the Minister. It is the Courts that stand between the public and Departmental control, and it is important that Parliament should not take this protection away. It is not, of course, intended to impute any undesirable motive to the Department, but another instance was given of the undesirability of leaving the subject to the unfettered discretion of any Department by a fact disclosed in this case. After it was known that the only issue between the Joint Authority and the defendants was the amount of compensation which ought to be paid, a letter was written by the Clerk to the Authority, addressed to the Secretary of the Ministry, setting out the reasons why, in the opinion of the Authority, the Minister ought to reject the claim for any greater amount than the Authority were willing to give, and the Court pointed out that such a course could never have been adopted behind the back of the other side to any judicial or quasi-judicial tribunal, and without saying that the letter in question had had any influence in the decision arrived at in this case, the Court observed, were such a course permitted, it would be impossible to obtain a just decision from any tribunal whatever, and this illustrated the importance of the functions of such a body being administrative and not judicial.

It appears to us the whole point of the matter lies in this, for an administrative Department may, and indeed must, correspond with the parties concerned, but directly judicial functions are added to administrative duties, then correspondence with either side becomes improper, as communication by any party to a dispute with the tribunal who has to determine that dispute is never tolerated in the interests of justice.

BOOK REVIEW

Jackson's Book-keeping. 25th edition. Revised by H. J. Eldridge. London: Effingham Wilson. 6s. net.

This work affords one of those encouraging examples of how, by reason of a strict adherence to first principles and an avoidance of what have come to be known as "stunt" methods, a text-book on any subject may survive from generation to generation in such a way as almost to merit the description of "standard work." Coming into existence upwards of a hundred years ago, the matter has been constantly revised and so much rewritten that the book has but small resemblance to the original in expression and form. But throughout the generations, though methods may change, first principles remain constant, and the student, once properly grounded, is in a position to exercise a sound judgment how far any change of methods is desirable; also how they may be adapted to the varying needs of different businesses. Jackson's book-keeping is of an elementary character, and therein lies its strength. Designed to show how a practical system of book-keeping may be initiated and carried on, from original entry to balance-sheet, it sets out the processes in simple language and orderly sequence until that end is attained. From time to time the student is invited to test his understanding of the subject put before him by the solving of exercises taken from or similar to those set by examining bodies. By the time he reaches the end he ought to be able to solve similar exercises quite easily because he will have gone to the root of the matter.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

QUESTIONS.

R.I.B.A. Contract.

SIR,—I should be glad to know whether the revised form of contract which was being prepared by the R.I.B.A. is yet issued and in force. I should also be glad to hear from any of your correspondents who have had experience in administering a contract under the revised form. CONTRACT.

Arbitration.

SIR,—I should be glad of advice as to the following: It is usual for architects to fill in a name of some known colleague in the blank space of the arbitration clause of the contract. My name has been so given, though without consulting me, and I have now been asked to act as arbitrator in a dispute. I am quite willing to do so, and feel competent to act; but I should like to know, first, whether I incur any legal liability arising out of my award, i.e., if the law were subsequently to set my award aside, would either party have grounds for action against me?

PRACTITIONER.

Concrete Slabs.

SIR,—I have a mould 6 ft. square, and propose making concrete slabs 6 ft. by 6 ft. by ½ in. thick as the walls and roof of an outside tool shed. Do you consider this thickness of slab rigid enough to handle (with a little care), and what aggregate would you suggest for this purpose?

AMATEUR.

Electricity Developments.

SIR,—I should be glad to know whether any official report has been issued regarding the grid system which is now being developed; and, if so, whether such report deals with the terms under which existing Public Utility Companies will be paid out or absorbed?

ESTATES.

Air Space.

SIR,—Can you inform me whether in the model by-laws dealing with air space at rear of buildings the boundary walls or fences are included in the prescribed air space areas or whether measurements must be taken within them, even though they do not exceed 6 ft. in height?

PRACTICE.

Heating System.

SIR,—During the recent frosty weather a heating system has been emptied down. I noticed several of the stop-cocks were manipulated, and since restarting the system certain circuits are not getting their full heat, although all the stop-cocks are full on. Can you advise me what is wrong?

OWNER.

Cement.

SIR,—It appears that cement of to-day is vastly improved in uniformity and strength to that produced twenty years ago. Can you tell me (1) Whether there are comparative figures to prove this, and (2) Has this improvement been taken into account in the administration of the London Building Act?

MATERIALS.

Hard Woods.

SIR,—I should be glad to receive a list of suitable hard woods of Empire growth which may be used as substitutes for teak and mahogany, together with comparative prices and jobs upon which they have been used and can be seen.

PATRIOT.

Advisory Panels.

SIR,—I wish to know what powers the advisory panels of architects operating in Surrey possess. Can they veto an elevation, and, if not, in what way is their operation effective as compared with previous conditions?

BUILDER.

"Time and Material" Work.

SIR,—Can any of your readers give me a definite ratio of time to material in (1) where straightforward work has been done under above heading, and (2) where work involving much labour in alteration work has been done under same?

QUANTITIES.

Heating Practice.

SIR,—The desirability of fixing stop valves to the flow and return pipes of a central heating system immediately over the boiler seems obvious, as any fault to the boiler can be corrected without emptying the whole system. This seems rarely done, and I should be glad to hear opinions. STEWARD.

Strength of Pipes.

SIR,—I should be glad to know what are the relative strengths of the following pipes to resist internal pressure—*i.e.*, by expansion due to freezing:—(*a*) Lead, usual Water Company strength; (*b*) galvanised W.I. piping; (*c*) steam quality ditto; (*d*) light gauge copper. SUPERVISION.

Land Drains.

SIR,—I should be grateful if any of your correspondents could put me in touch with makers of a porous concrete pipe with socketed ends, to serve for land drainage purposes. These pipes have all the advantages of an agricultural pipe, being cheap and easily laid, with their own advantage of being close jointed and socketed against displacement.

DRAINAGE.

A Damp Gable.

SIR,—I have a house the gable end of which shows patches of dampness. The wall is a solid 9-in., pebble-dashed on the outside. The house has been up about nine years. I have examined the pebble-dash, and it seems to be perfect. I should be pleased to have your readers' opinions on the matter, and the most effective way of stopping the dampness.

F. W. S.

Powers of Local Authority.

SIR,—Can you inform me whether a local authority has power to insist on separate surface-water drainage in a confined site where there is no separate surface-water sewer?

OPIDUM.

ANSWERS.

Chimney Dressings.

[ANSWER TO 'COTTAGES," DECEMBER 11.]

SIR,—A cement fillet carefully applied to the chimney and covering the upturn of the soakers makes quite a good job, especially if laid on a strip of paper or the roof slope, so that the latter can sag without pulling the felt with it. RURAL.

Junction Boxes.

[ANSWER TO "CIRCUIT," JANUARY 1.]

SIR,—A gunmetal cover with flanged joint set in bitumen makes a good watertight joint for these purposes, but a rough-and-ready job is secured by filling the ordinary boxes up solid with Russian tallow or similar material.

SEAL.

Licensing Questions.

[ANSWER TO "PLANNER," DECEMBER 11.]

SIR,—Sale of beers, wines, spirits, tobacco, etc.;—Apply to the Justices' Court. It is advisable to be represented by a solicitor in making the application.

Music and dancing.—Apply as above

Stage plays.—Generally to the county council, who in some cases delegate powers to the local authority. Consult the town clerk.

Cinema.—Almost invariably the county council. LICENSES

Builder's Profit.

[ANSWERS TO "W. G. N.," JANUARY 1.]

SIR,—(1*a*) Labour and materials, 15 per cent.; (1*b*) labour and supervision, 22½ per cent.; (2) unsupervised labour, 3d. per hour per man; (3) varies with size and nature of proposed work. T. J.

SIR,—In tendering, a 10 per cent. profit, plus 2½ to 5 per cent. (according to size of job) for establishment charges, plus workmen's compensation, etc., is usual; but in close tendering these margins are frequently cut to a low figure. It would be fair to allow 12½ per cent. on all P.C. figures. Day-work rates for labour only are generally fixed by the local builders' federation, to whom your correspondent might apply for information.

FIGURES.

Soil and Vent Pipes.

[ANSWERS TO "ECONOMY," JANUARY 1.]

SIR,—When two closets are connected to the same soil pipe, one above the other, an anti-siphonage pipe is necessary. It is therefore usually cheaper to connect the one at ground-floor level to a branch drain.

X. R. E.

SIR,—It is generally cheaper to make separate connections to the drain unless the ground is far below ground-floor level. If both are connected to one soil pipe it is necessary to go to the expense of an anti-siphonage pipe to prevent one flush pulling out the water in the trap of the other by siphonage. PLUMB.

SIR,—It is quite usual to fit two W.C.s in a house, one above the other, but care must be taken to use the right type of pan, otherwise the water in the trap of the higher will be sucked down when the lower is flushed. It is quite unnecessary to make two separate connections to the drain, and if this were done it would be very much more expensive.

R. H. W.

Smoky Chimney.

[ANSWERS TO "YOUNG ARCHITECT," JANUARY 1.]

SIR,—As "Young Architect" does not experience trouble when either a door or window is open, it is suggested that a pipe connected with the open air on the left-hand side of his chimney-breast and at ground-floor level would probably answer. Galvanised water tube, one and a half inches diameter, would very likely be sufficient.

J. R. T.

SIR,—This is a common trouble with this type of old-fashioned chimney. If possible, a smaller flue should be constructed within the existing large chimney, no greater than 14 in. by 9 in., by chasing out inside or out and building up. This should be gathered out as a hood, within the inglenook and over the fire hearth. There is no other certain cure for the trouble. PRACTICE.

SIR,—The chimney referred to by "Young Architect" is perhaps unique and must certainly be very uncommon. The cause of the smoke not rising in the flue is, I think, due to the latter being too large, the warm smoke being kept down by such a volume of cold air. The trouble may be cured by fixing a patent pot, but possibly the opening at the top of the chimney may have to be reduced to take this pot. R. H. W.

SIR,—Few will envy "Young Architect" the fifteenth-century relic which he terms an inglenook; it is more than likely it was so built to cure bacon, and nothing less than a fire of logs 7 ft. long could be expected to burn there. A basket or dog grate is doomed to failure. As a remedy, wall up the left half of recess, put in a register stove, open breast in room above, build a 9 in. by 9 in. flue as high as possible, finish the remainder of flue with a 9-in. sheet-iron flue pipe (passed down stack from roof), seal the joint between brick and iron, close the cavity around top, and finish with a short pot.

L. J. W.

SIR,—If querist will write to me and say what sort of grate he wishes to use, I will try to help him. I have done several in this district, and am doing one now. The opening is 6 ft. wide, 3 ft. from front to back, with an old bread oven in back. Querist need not touch any part of the present building to alter it; he need only build up from the new grate a side-wall and cover from the side-wall to the old wall with a stone or concrete slab behind the oak beam on either side of new grate. W. MORTIMER.

Nailsworth, Glos.

THE BUILDING TRADE

THE LESSONS OF EXPERIENCE.—II

By J. R. TAYLOR.

Building Risks.

That buildings can be erected without any sort of risk, or even without serious risks, cannot be contended, and that many builders take unwarrantable risks can hardly be denied. Nor, so long as laxity in regard to specifications and supervision make it probable that the builder most likely to obtain the job, is he who amongst those tendering is for one reason or another prepared to take the greatest amount of risk, can we hope for any considerable amount of improvement except by a further stiffening up of legislation. From time to time, by means of extensions of the Factory Acts, efforts are made to lessen the number of risks, but the staff of H.M. Factory Inspectors is so small in comparison with the large number of factories to be visited that fully efficient control cannot be established. For this reason and others there is absence of agreement with those who in decrying the methods of building control in London practice extol those in use in the Provinces. It is only those who have had intimate experience of building methods in London and in the provincial borough and small town who can by contrast appreciate the full value to property owners and the public generally of the services rendered by the London District Surveyors, for instance. Such a happening as the following would be more than unlikely in the areas under their control.

In a not unimportant provincial borough it was decided to pull down a substantial brick building in a good state of preservation and to erect a modern steel-framed building in its place, on a corner site in a busy street. On proceeding to demolish the old building it was found that the wall next to adjoining property was in very good condition, and it appears to have been decided to leave it standing. It was some 60 ft. long and 40 ft. high above pavement level. Incredible as it may appear, this wall, though obviously not in any way tied into the adjoining property, was left standing without support from heavy raking shores. The most that was attempted was to erect two light shores consisting of long slender scaffold poles, and even these had been removed when the upper portion of the wall fell. A slowly opening gap gave long warning of what was likely to happen, and interested observers speculated whether the steelwork could be got up in time to prevent the wall from toppling over. When some 20 tons of the top portion of the brickwork crashed, this, fortunately, took place after midnight, when the workmen were absent and the street deserted.

Such a happening would be so unlikely under average conditions that it would hardly require any further comment were it not that it had one feature in common with the conditions that far too widely prevail. The quantities contained the usual stipulation that the builder was to take all precautions for the safety of adjoining premises and the public generally, and to erect all necessary shores. But it was left to the firms tendering to decide what was necessary. In London such a stipulation would have some meaning because authority would have demanded adequate shoring, and in the large provincial cities and towns such obviously dangerous conditions would not have been tolerated over so long a period, if at all. It would seem that it is for the architect (where one is employed) to decide what precautions are necessary and to instruct accordingly, so that the instructions can be interpreted by a surveyor and minimum requirements be stated in the bills of quantities. If the Standard Method of Measurement is referred to, a requirement as to provisional quantities will be found to be mentioned. It is altogether insufficient to give the superficial area of an opening to be cut or of a wall to be shored if any desire to put all those tendering on an equal footing is present, and laxity in respect to such matters is tantamount to an invitation to builders to take unnecessary and very dangerous risks. It is, of course, true that a competent and experienced builder is as good a judge as most as to what is necessary to minimise risk, but the very fact that he possesses experience and judgment in such circumstances may serve to put him at a competitive disadvantage. In any event, an architect would stare at a builder bold enough to assert a claim to a superior knowledge of the requirements of the case.

Risks of a smaller scale are frequently taken. Very often they are connected with alterations to shop fronts when being modernised by builder and shopfitters. It is not at all uncommon to find that cracks have subsequently developed in walls carried on new beams. Sometimes this is the result of inadequate shoring, but more often it follows on want of care in wedging and pinning up the work carried by the beam. Most frequently of all it is the result of over-haste. A wall adequately supported on dead shores may have a sufficient beam inserted and the work over be properly pinned and wedged, and yet show signs of failure later on because the mortar was green when needles were withdrawn. It may be months afterwards that cracks become very apparent because of the tendency of the old work over to arch. "Ferrocrete," or Aluminous cement should be used in such cases where speed is essential.

It sometimes happens that new plate glass put in shop fronts that have been modernised cracks shortly after being fixed. This may be due to several causes, one of which is that frequently the frame is secured in position by driving in wedges between the head and the soffit of the beam over. If these wedges are allowed to become damp and the glass is of rather too tight a fit, or is packed up a little at one corner, because the frame is a little out of truth, the swelling of the wedges puts a strain on the glass. Sometimes, however, it is due to the warping of the timber in the frame, and oak cut from larger scantling and hurriedly used is very liable to this trouble.

Oak that has long been cut will often move when re-sawn, as is shown by the following instance. The bells of a fine, old church were rehung, and portions of the old oak frame were acquired by a builder who wished to have a few mason's mauls turned up for presentation purposes at foundation-stone laying ceremonies. Two out of three of the mauls cracked, one so badly that the gap measured a quarter of an inch across; and yet a picture frame made up out of the self-same beam remains in perfect truth, with mitres as close as on the day that they came from the bench. This oak must have been felled upwards of five hundred years ago.

Insufficient care in regard to disposition of sole pieces for dead shores sometimes results in nasty accidents. They should never be placed on flagged pavements because the ground below may have been disturbed for conduit running and afford insufficient support. That the flags are to be taken up, the ground below tested, and the flags later relaid, should be specified, and be taken up in provisional quantities. I once found a dead shore being footed on a well-cover, but, fortunately, it was noted before the weight was transferred. Similarly, I have known a raking shore to be footed within a very short distance of a brick culvert, but here, fortunately, no thrust beyond that imposed by the wedges was received.

It often happens that in connection with alteration works the builder is invited to tender for the removal of, and breaking through, old interior walls, the composition of which cannot be ascertained in advance. For such work the more experienced the builder is the less he will be inclined to quote a low price. The less experienced he is the less he is fit to be entrusted with the work. Alterations to old existing buildings carry with them many risks. Blocked off flues may be present in what appears to be thick, solid walls, and when further loads are transferred collapse may follow. Apparently sound old beams may be in such a condition that a very small additional load will cause a collapse. One cannot be too cautious when engaged on this class of work, and unless it can be obtained at a price that will allow the adoption of all necessary precautions it is best left alone. If the specification or quantities show a disregard as to the methods to be employed covered by a clause shifting every possible responsibility on to the builder, then the work more often than not is best left to somebody of a similar happy-go-lucky disposition. Either the architect in such case does not know or does not care, and in either event this is dangerous.

Of recent years there have been many outbreaks of fire in old country houses, the destruction of which has, where they were large or of architectural or historical interest, attracted considerable attention. In debating the causes of such happenings the most generally expressed opinion is that it is either a case of fused electric wiring or the introduction of central heating. In regard to the installation of central heating it is necessary to be very careful about connecting up to an old existing flue. It should be opened up and lined with fireclay flue liners for a height of some 10 ft. above the connection to furnace. As regards fused electric wires, many fires are attributed to this cause that originate in some other. Fused wires may result from fire as well as be the occasion of it. In regard to a good many fires where the buildings even of less importance or by reason of the damage not being very extensive, not much notice has been taken of them. In the majority of cases when accident has not been the cause, the fire has followed the placing of a modern grate in an old opening without sufficient precautions being taken regarding the hearth. Very often it will be found in old property (and at times in comparatively new) that the stone flag or slate slab rests on timber not properly trimmed out and filled.

Sometimes it is trimmed, but not filled, the hearth being supported on wooden fillets nailed to the sides of trimmer and with a firing piece to carry the plastering laths if on a first floor, or over a cellar. When the old fireplace boxes were well above the hearth there was not so much danger, but with the newer type there is great heat at the hearth, and any collection of hot ashes in the joints or cracks occasioned by the heat may set fire to the wood below. An even more fruitful cause is the want of solid filling behind mantel-or chimney-pieces. In course of time these become filled with soot, especially when there is a slight tendency to downdraught. This soot is liable to catch fire and set the nearby wooden skirting and floorboards alight. Strictly speaking, these might not be classed as builder's risks, except, perhaps, where an action at law might follow if the fire occurs comparatively soon after the grate is fixed. A short time before the above was written an instance of cause was noted. A large old kitchen, with one of the huge fireplaces of earlier days, had been converted into a dining-room. The original fire recess had the breast over carried on an oak beam. A new firegrate was put in at the back of the

recess with a built-up flue projecting a short distance into the large old flue up which chimney sweeps' lads had probably climbed in times past. The space in between the old and new flues, i.e., the space between the outside perimeter of the new flue and the inside of the old, was coved with slabs, one edge being supported by a moulded fillet planted on the inner face of the beam, and an ingle nook was formed. Large accumulations of soot on the new slab covings took fire and burned through the middle of the beam, and the damage done was considerable.

The mere fact that a builder is insured against risks so far as accidents to workmen are concerned, and may even hold a third party risk policy, does not necessarily mean that the building owner is fully protected. Circumstances may arise that render the policies void, and in any event the third party policy will often limit the amount of cover. In these days, juries give very heavy damages for loss of life compared with those awarded in earlier times. A really bad accident may bankrupt the builder and place the client in a very unfortunate position.

It is in the general interest that the risks of building should be reduced to the minimum for all parties concerned, and this is better attained by care and forethought than by drafting innumerable penalty clauses.

(To be continued.)

COMPARISON OF PRICES OF BUILDING MATERIALS

On January 1, 1931, with Current Prices.

	January 1, 1931. £ s. d.	January 1, 1932. £ s. d.
Bricks—		
Best stocks	4 3 6	4 3 6
Flettons	2 12 3	2 11 3
Glazed...	21 0 0	21 0 0
Thames Ballast... ...	0 8 0	0 8 0
Thames Sand	0 11 0	0 11 0
Shingle (¾)	0 8 6	0 8 6
Portland Cement ...	2 6 0	2 4 0
Ground Blue Lias Lime	1 17 6	1 17 6
Grey Stone Lime ...	2 10 9	2 10 9
Bath Stone	0 2 10	0 2 10
Portland Stone ...	0 4 4½	0 4 4½
Good Sound Building Timber—		
4 in. by 11 in. ...	27 10 0	24 10 0
3 in. by 11 in. ...	22 0 0	19 10 0
2 in. by 11 in. ...	23 0 0	19 10 0
3 in. by 9 in. ...	22 0 0	19 10 0
3 in. by 7 in. ...	20 0 0	18 0 0
3 in. by 4 in. ...	20 0 0	17 10 0
Slates (per 1,000)—		
24 in. by 12 in. ...	31 0 0	30 0 0
22 in. by 12 in. ...	27 19 6	26 10 0
20 in. by 10 in. ...	20 17 6	20 2 6
16 in. by 10 in. ...	14 14 6	14 5 0
16 in. by 8 in. ...	11 5 0	11 0 0
R.S. Joists	12 10 0	11 0 0
Iron—		
Common Bars ...	11 0 0	11 0 0
Mild Steel Bars ...	10 0 0	10 0 0
Steel Bars	10 0 0	9 0 0
Cut Nails	17 0 0	16 0 0
Sheet Lead	24 0 0	23 10 0
Glass—		
15 oz. sheet	0 0 2¾	0 0 2¾
21 oz. sheet	0 0 3½	0 0 3½
26 oz. sheet	0 0 4¼	0 0 4¼
Raw Linseed Oil ...	0 2 10	0 2 2
Turpentine	0 3 5	0 4 8
Ground English White Lead	48 0 0	47 10 0
White Lead Paint ...	66 10 0	63 10 0
Red Lead	37 0 0	33 0 0

House Building Scheme, Bolton.

Bolton Corporation have to build 1,100 non-parlour houses. This is the decision of the Minister of Health, who, in a letter to the Bolton Corporation Housing Committee, states that, having regard for the need of houses which can be let at rentals within the means of the lowest-paid worker, he did not think that he could properly agree to the erection of several parlour houses, as had been proposed by the Committee.

YEAR BOOKS AND CALENDARS

A.A. Year Book.

THAT robust annual, the Year Book and Diary of the Architectural Association, again makes an appearance as welcome as useful. Every architect who possesses a copy finds of use the collected miscellaneous technical data which forms a prominent feature of the book, and also the generous allowance for diary space which, we sincerely hope, may be well stocked with entries for appointments with new and wealthy clients in the coming year. Subsequent to this section there are many pages devoted entirely to Association matters, useful alike to members and to parents considering entering their sons and daughters for the profession of architecture. Of more than ordinary value to the architect and surveyor is the Building Materials Bureau, which is maintained at the Association's premises. There it is possible to keep in touch with the newest materials for building and equipment.

South Eastern Society's Year Book.

The Desk Diary and Year Book for 1932 of the South Eastern Society of Architects (in alliance with the R.I.B.A.) is a greatly improved and most valuable publication. This comparatively young Society has come at a time which could not be bettered, for there is plenty of work ahead for it in the shape of improving the architectural quality of its area, in which development by building is ever increasing. Five chapters (Brighton, Canterbury, Croydon, Guildford and Tunbridge Wells) have been established and are all doing good work. The president is Mr. A. R. G. Fenning, F.R.I.B.A., and under his control efforts are being concentrated on educational work with students and general lectures on architecture to the public, inaugurated last year by Mr. R. Goulburn Lovell, A.R.I.B.A., the hon. general secretary. To return to the Diary, a number of features (which include an essay on "Competitions in Architecture," by Mr. E. Berry Webber, A.R.I.B.A., and a delightfully reminiscent article on architectural figures in the last century by Mr. Harold Falkner, F.R.I.B.A.) will be found of interest, in addition to Society news. Of general value are the diary section (admirably planned out) and the list of builders and contractors in Kent, Surrey and Sussex.

"Whitaker."

The 64th volume of "Whitaker," for 1932, well sustains this annual's reputation for invaluability and universatility. The formation of the National Government and the subsequent General Election have brought about many changes in the issue. The Cabinet as finally reconstructed and the new House of Commons are included, together with articles on the Financial Crisis and Government by Party, with a tabular record of Administrations from Pitt to MacDonald. In addition to other features, questions of the day are again treated in separate articles ranging in alphabetical sequence from "Allotments for Unemployed" to "The Weir Report." These are followed by annual summaries of the year's weather, storms, floods, science and invention, literature, art, music, drama, the films, and broadcasting.

Structural Engineers.

The Year Book and List of Members for 1931-32 has been issued by the Institution of Structural Engineers, from 10, Upper Belgrave-street, S.W.1 (price to non-members 5s.). The total membership is now 3,444.

Southern Counties Builders.

The Diary and Year Book, 1932, the twelfth issue of the Southern Counties Federation of Building Trades' Employers is now published from 34, Russell-square, W.C.1. A great deal of information useful to builders and architects is contained, and a number of illustrations of buildings carried out by members of the Federation are included, amongst them some interesting process photographs of the Shakespeare Memorial Theatre, at Stratford-on-Avon, for which Messrs. G. E. Wallis & Son, Ltd., are contractors.

"Surveyors' Tables and Diary."

A most useful and handily-sized book, containing tables and diary for the use of surveyors, reaches us from Messrs. Metchim and Son. It is, of course, well-known to the profession already, and all that is necessary to add is that the text matter has been revised and added to, and the hand-book is likely to prove most valuable, especially to the London surveyor and district surveyor, as essential parts of the London building regulations are incorporated. Copies, price 2s. 6d. cloth or 3s. 6d. with leather cover, are obtainable from the Publishing Department, *The Builder*.

PLUMBING TRADES APPRENTICESHIP

THE sixth annual function at which members of the Plumbing Trades Central Apprenticeship Council for London, employers, apprentices and friends meet in social intercourse took place on December 17 at the Borough Polytechnic, S.E.1, when there was a good attendance. After a meal had been partaken of, the company adjourned to the lecture theatre, which was wellnigh filled, and where Mr. W. D. Caröe, F.S.A., F.R.I.B.A., occupied the chair.

At the outset, the chairman said he had a pleasing duty to perform. He had been asked to present a silver medal to James Walter Pearce for gaining a high place in the City and Guilds of London Institute's examination in plumbers' work. The medal was presented by the Institute of Plumbers, Ltd. The chairman said that although Mr. Pearce had not passed through their scheme, he had been apprenticed to the well-known firm of ship plumbers: Messrs. R. and H. Green and Silley Weir, Ltd., and he congratulated him upon his success.

In a few opening remarks, Mr. Caröe said this was the sixth occasion upon which he had been privileged to preside at these interesting little meetings, and after a few words of encouragement and sound advice to the apprentices, he called upon Mr. Charles E. Robinson to read a paper on "The Secret of Success."

Mr. W. F. Thacker, proposing a vote of thanks to Mr. Robinson for his valuable address, said the keynote of the address was "toiling and never satisfied."

Mr. Robinson was indeed a "Registrationist," and undoubtedly one who thought registration would bring about the millennium. He (Mr. Thacker) differed slightly, because he thought that on a proper system of apprenticeship rested the sure foundation that other things would follow.

Mr. Edwards, principal of the Walthamstow Technical College, seconded.

Mr. Victor T. Sulston, in proposing a vote of thanks to the chairman, said but for the interest taken by Mr. Caröe, apprenticeship in the plumbing trade would have been lost. His keenness and energy to get the scheme upon a sound footing had been an inspiration to them all. He not only founded the scheme, but saw to its successful operation in conjunction with the master plumbers and operative plumbers, and they, together with the apprentices, had much for which to thank Mr. Caröe. Mr. Walter Scott seconded.

Mr. Caröe, acknowledging the vote of thanks, said they must also extend their thanks to Mr. Bispham, the principal, and the governors of the Polytechnic, for allowing them to use it that evening.

At the close of the meeting, the chairman signed the indentures of the following apprentices:—Stanley Griffiths (Matthew Hall and Co., Ltd.), Harold Watson (W. H. Gascoigne and Co.), C. F. Robinson (A. Grant and Sons, Ltd.).

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1931.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Accrington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Aldershot	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Alfreton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Alnwick	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Altrincham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ashford (Kent)	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Ashington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ashton-under-Lyne	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Aylsham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Barnsley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Barnstaple	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barrow-in-Furness	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Barry	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Basingstoke	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bath	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bedford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Berwick	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bexhill	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Birkenhead	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Birmingham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bishop Auckland	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Blackburn	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Blackpool	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bognor Regis	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bolton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bournemouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bradford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bradford-on-Avon	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Braintree	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0
Brentwood	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bridgwater	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bridlington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Brighton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bristol	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bromsgrove	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bromyard	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11	
Bungay	1/2	1/2	1/2	1/2	7/2	1/2	1/2	10½
Burnley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Burton-on-Trent	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bury St. Edmunds	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Buxton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Cardiff	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Carlisle	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chatham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cheltenham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Chester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chesterfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chorley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cirencester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Clacton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Colchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Coventry	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cranbrook	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Crewe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cromer	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Darlington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Deal	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Denbigh	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Derby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Devizes	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Dewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Doncaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dorchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Dorking	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Dovercourt	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Driffield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Droitwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dudley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Durham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Eastbourne	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
E.Glam.(Mon.Val.)	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ely	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Exeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Exmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Fakenham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Felixstowe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Folkestone	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Frome	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Glossop	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Gloucester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Godalming	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Goole	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Gosport	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Grantham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Gt. Yarmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Grimsby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Guildford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Halifax	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Harpenden	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Harrogate	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hartlepools	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Harwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hastings	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Hatfield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hednesford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hereford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Herne Bay	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Huddersfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hull	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hunstanton	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Huntingdon	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Isle of Wight	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Ipswich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Keighley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Kettering	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Kidderminster	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Kings Lynn	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Lancaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leamington Sp	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Leeds	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leicester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leighton Buzzard	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Lichfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lincoln	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Littlehampton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Liverpool	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Llandudno	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Llanelly	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
London—								
12 m. radius	1/8	1/8	1/8	*	1/8	1/8	1/7	1/3
12-15 m. radius	1/7½	1/7½	1/7½	*	1/7½	1/7½	1/6½	1/2½
Loughborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lowestoft	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Luton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Macclesfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Maidstone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Malvern	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Manchester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Mansfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Margate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Market Harborough	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Matlock	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Melton Constable	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Melton Mowbray	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Merthyr Tydfil	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Middlesbrough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newark	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Newbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newcastle-on-Tyne	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newcastle-u-Lyme	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
New Forest	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newmarket	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newport, Mon.	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Northampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Norwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Nottingham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Nuneaton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Oldham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Oxford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Paignton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Peterborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Plymouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Pontypridd	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Portsmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Preston	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ramsgate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Reading	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Redcar	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Redditch	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Reigate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Retford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Ripon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Rochdale	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Rochester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rugby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Saffron Walden	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
St. Albans	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
St. Helens	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sawbridgeworth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Saxmundham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Scarborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sevenoaks	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sheffield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Shrewsbury	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sittingbourne	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Southampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
South Shields	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stevenage	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stockport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stockton-on-Tees	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stoke-on-Trent	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourbridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stourport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stowmarket	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Stratford-on-Avon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4	1/0½
Sunderland	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Swaffham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Swansea	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Tamworth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Taunton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Thetford	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Torquay	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Totnes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Trowbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Tunbridge Wells	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Uttoxeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wakefield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Walsall	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Walsden	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Warminster	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Warrington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Warwick	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wells (Norfolk)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Welwyn Gar. City	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
West Bromwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Weston-sup-Mare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Weymouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Whitby	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wigan	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Winchester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Windsor	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wisbech	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wolverhampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Woodbridge	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Worcester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Worksop	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Worthing	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wrexham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wycombe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wymondham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
York	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2

*The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, as and from the 1st February, 1931, is 1/10½ per hour.

For Building Trade wages in Scotland, see page 120

NEW BUILDINGS IN LONDON

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Wednesday morning.*

Commercial-street.—EXTENSIONS. — Messrs. Godfrey Phillips, Ltd., are to extend their premises in Great and Little Pearl-streets. The architect is Mr. B. W. H. Scott, F.R.I.B.A., 25, Bedford-row, W.C.1.

Cricklewood.—FACTORY.—Messrs. Pell and Clayton, Ltd., contractors, Australia House, W.C.2, have submitted plans, now approved, to the Willesden U.D.C., providing for a factory at Humber-road, Cricklewood, for Mr. Sydney Jay.

Cricklewood.—EXTENSIONS.—Messrs. Bovis, Ltd., 35, High-street, Marylebone, have submitted plans to the Willesden U.D.C., subsequently approved, for extensions to their joinery works at Oxgate-lane, Cricklewood.

Ealing. — EXTENSIONS. — Extensions are being proposed to the A.R.P. Studios at Ealing Green. Mr. Robert Atkinson, F.R.I.B.A., 126, Wigmore-street, W.1, was the architect for the new studios just erected.

Edgware-road.—FACTORY.—Messrs. Imperial Machines (Peelers, Ltd.) propose factory buildings at Victoria Works, Edgware-road, N.W. Plans have been approved by the Willesden U.D.C.

Finchley.—FLATS.—Mr. J. B. F. Cowper, F.R.I.B.A., 5, King's Bench-walk, E.C.4, is the architect for a block of flats to be erected at Temple Fortune, N.W.

Finchley-road.—BUILDINGS.—Messrs. Morris Estates, Ltd., 14, Regent-street, S.W.1, have prepared plans for a block of buildings in Finchley-road, Hampstead. No building contracts have yet been let.

Finchley-road.—FLATS.—A new block of flats is to be erected in Finchley-road. The architect is Mr. W. B. Binnie, F.R.I.B.A., 26, Old Queen-street, S.W.1, and the builders are Messrs. Hall, Beddall and Co., Ltd., Pitfield Wharf, Waterloo Bridge, S.E.1.

Finsbury.—HOUSING.—The B.C. are, subject to consent, to acquire properties known as 164-168, Farringdon-road; 1-3, Baker-street, and 2, St. Helena-street, for housing purposes. The Council also understands that the M.H. are prepared to approve the plans for the Cyrus-street housing scheme.

Higham Hill.—OFF-LICENCE.—Mr. S. A. S. Yeo, A.R.I.B.A., 2, John-street, E.C.1, is architect for off-licence premises for the "Higham Hill Tavern."

Holland Park.—FLATS.—No contracts have yet been placed for the erection of flats at 80, Holland Park, W. Mr. H. W. Binns, 15, Soho-square, W.1, is the architect.

Hornchurch. — SCHOOL. — A new Council school is to be erected in Rainham-road for the Essex County Council. The plans are by the County Architect, County Hall, Chelmsford.

Kilburn. — SHOWROOMS. — Mr. George Barker, 48, New-road, E.1, has secured the contract for the erection of showrooms and workshops in Malvern-road, Kilburn. The work is being carried out for Messrs. A. and S. Brothers, of Kilburn-lane, to plans prepared by Messrs. G. A. Sexton and Son, 42, High-road, Kilburn, N.W.6.

Lambeth.—PREMISES.—Mr. Payne Wyatt, of 465, Brixton-road, S.W.9, is the architect for new premises which are to be erected in Gray-street, Lambeth, S.E.1.

Leyton.—FACTORY.—Plans presented by Mr. E. R. Fenwick have been approved by the Leyton T.C., providing for the erection of a factory at the rear of 287, Cann Hall-road.

Leyton.—HOUSES.—The Leyton T.C. has passed plans for the erection of 20 houses in Overton-, Staffa- and Wellington-roads for Messrs. W. Manders & Co., 140, Temple-chambers, Temple-avenue, E.C.4, and Hale-drive, N.W.7.

Leyton. — BUILDINGS. — The London Co-operative Society, Ltd., 54, Maryland-street, E.15, propose alterations and additions at their abattoir, South Birkbeck-road. Plans have been approved by the Leyton T.C. The Society's Works Manager is Mr. A. Hulbert, Whitta-road, E.

Marylebone-road.—EXTENSIONS.—The governors of the Samaritan Free Hospital for Women are proposing extensions to the hospital.

Plumstead. — EXTENSIONS. — St. Nicholas Hospital is to be extended. The plans have been prepared by Mr. G. Topham Forrest, F.R.I.B.A., architect to the L.C.C.

Poplar.—RECONSTRUCTION.—The B.C. recommend that, subject to the sanction of the M.H., the tender of Messrs. A. E. Symes, Ltd., of Stratford, E., at £88,259, be accepted for the reconstruction of the public baths in East India Dock-road, Poplar.

Stoke Newington.—BUILDING.—Mr. W. J. Cearns, Carpenters-road, Stratford, E.15, is the builder for a new sub-station in Lordship-lane, for the B.C.

Tooting.—ADAPTATIONS.—H.M.O.W. have placed a contract with Messrs. C. H. Boyd and Son, Ltd., 37, Craven-terrace, W.2, for adaptations to the Tooting post office.

Twickenham. — ADAPTATIONS. — Messrs. Brewer, Smith and Brewer, 11, The Green, Richmond, are the architects for the adaptations to be carried out at the Old Town Hall.

Upper Woburn-place. — EXTENSIONS.—Messrs. G. E. and K. G. Withers, of 50, Cannon-street, E.C.4, are the architects for extensions to the Cora Hotel. The builders are Messrs. Somerford and Son, Ltd., 104, Manor-street, S.W.4.

Walham Green.—PREMISES.—No building contract has yet been settled in connection with the branch premises for Messrs. Lloyds Bank, Ltd., Lombard-street, E.C. The plans are by the bank's own architects.

Walthamstow. — EXTENSIONS. — Messrs. J. Lyons & Co., Ltd., of Cadby Hall, W.6, propose extensions at 258-260, Hoe-street, Walthamstow. Plans, which are being prepared by their Building Department, have been passed by the Borough Council.

Walthamstow. — FACTORY. — The Borough Council has passed plans for a factory in Sutherland-road, for Mr. A. C. Firmin.

Walthamstow. — FACTORY. — Messrs. Thos. De La Rue & Co., Ltd., Bunhill-row, E.C.1, propose to build a factory on the Salisbury Hall Estate, Walthamstow. The T.C. has approved the preliminary lay-out plan. Messrs. Chas. P. Whiteley & Son, chartered surveyors, 79, Queen-street, E.C.4, have arrangements in hand.

Walthamstow. — FLATS. — Messrs. Yetts, Sturdy & Usher, 34, Gordon-square, W.C., have prepared plans for a block of shops with flats above and a billiards hall at 394-6, Hoe-street.

Walthamstow. — GARAGES. — Mr. H. Hawthorn proposes the erection of garages on land adjoining his premises, 196, Selwyn-avenue. The Survey Committee of the T.C. have the matter under consideration.

Walthamstow.—HOUSES.—Plans have been passed by the T.C. for 14 houses on the south side of Wadham-road, for Mr. S. L. Robinson; and for 24 on Manor-road and Warwick-road, for Messrs. Cockett, Henderson & Co., land agents, 43, St. James's-place, S.W.1.

Wandsworth.—ALTERATIONS.—Tenders for alterations to 96, North-side, Wandsworth Common, S.W., are now being invited. Messrs. Norton, Trist and Gilbert, 8, Queen Street-place, E.C.4, are the architects.

Westminster.—ALTERATIONS.—Messrs. E. A. Roome & Co., Ltd., of Crown Works, Urswick-road, Hackney, are carrying out alterations to Messrs. Noel Bros.' premises at 34, Parliament-street, S.W.1, under the direction of Mr. Sydney Jaques, A.R.I.B.A., 115-119, Moorgate, E.C.2.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor; C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

JANUARY 11.

***Antrim.**—Alterations.—For new bathroom at Gate Lodge, Co. Antrim Mental Hospital, for Committee. F. D. Brown, A., 93, Ann-st., Belfast. Dep. £1.

Bolton.—Houses and Flats.—On the Cameron-st. (No. 2) estate, for the Corporation. Town Clerk, Town Hall. Dep. £2 2s.

Bolton.—Shops.—On the Cameron-st. estate, for the Corporation. Town Clerk, Town Hall. Dep £2 2s.

Epsom. — Wiring. — Electrical installation for wiring, for U.D.C. H. W. Watts, electrical engineer, Electricity Works.

Erith.—Houses.—22 non-parlour type and 22 non-parlour type houses, for U.D.C. D. S. Twigg, clerk.

London.—Building.—Demolition of existing buildings and construction of diesel engine house, new weighbridge house and entrances, drainage and contingent works at Brixton pumping station, Waterworks-rd., Brixton-hill, S.W., for M.W.B. Chief Engineer, 173, Rosebery-av., E.C.1. Dep. £10.

New Malden.—Pavilion.—Small wooden pavilion, Kingston-rd. recreation ground, for Maldens and Coombe U.D.C. R. H. Jeffes, S. Dep. £1 1s.

Richmond.—Hall.—New drill hall, for Territorial Army Association of Surrey. Jarvis & Richards, A. & F.R.I.B.A., 8a, Lower Grosvenor-pl., Westminster, S.W.1.

Rugby.—Painting.—At Lawford Heath Isolation Hospital, for Rugby Joint Hospital Board. M. E. T. Wratislaw, clerk, 16, Church-st.

Shelf.—Houses.—Pair of semi-detached, Cross-rds. G. Rex. Oddy, L.R.I.B.A., architect and surveyor, Wards End-chambs., Halifax.

Watford.—Conveniences.—Public conveniences at Oxhey-pk. and North Watford playing field, for T.C. W. W. Newman, B.E. Dep. £2 2s.

JANUARY 12.

Athlone.—Building.—At Moydrum, Athlone, for high-power broadcasting station, for Commissioners of Public Works. T. Cassedy, Office of Public Works, Dublin.

Dublin.—Rebuilding.—Of National Maternity Hospital, Holles-st., for Governors. W. H. Byrne & Son, architects, 20, Suffolk-st. Dep. £10 10s.

Dudley.—Flats.—10 houses, Cradley-rd. site No. 7, Netherton; 2 blocks of flats, Wolverton-rd., for C.B. F. H. Gibbons, B.E. and Housing Director. Dep £2 2s.

Eaton Bray.—Houses.—Four houses at Eggington, for R.D.C. H. A. Rolls, architect, 15, Bridge-st., Leighton Buzzard. Dep. £1 1s.

***Hornchurch.**—Council School, Rainham-rd.—For the Essex C.C. County Architect, County Hall, Chelmsford. Dep. £2 2s. to the County Accountant.

Isle of Thanet.—Repairs.—To cubicle block of Isolation Hospital, Haine, near Ramsgate, for Joint Hospital Board. F. M. Shea, L.R.I.B.A., Elm Tree Cottage, Omer-av., Cliftonville.

Tynemouth.—Repainting.—3 groups of houses on Balkwell housing estate, for C.B. John L. Beckett, B.S., 20, Howard-st., North Shields.

Wallasey.—Additions.—To Promenade Pier, New Brighton. B.E. Dep. £1 1s.

Wrexham.—Houses.—70 on Acton Park estate, for T.C. Lockwood, Abercrombie & Saxon, architects, Cathedral-chambs., Chester. Dep. £2 2s.

JANUARY 13.

Deptford Bridge, S.E.10.—Convenience.—For the Deptford B.C. Town Clerk, Town Hall, New Cross, S.E.14. Dep. £1 1s.

Edinburgh.—Building.—Valve-house at Portobello power station, for T.C. E. J. MacRae, A.R.I.B.A., City Architect.

Leeds.—Improvements.—Tiling to bottom of large swimming bath at Cookridge-st. baths; asphalt lining to bottom of large swimming bath at Cookridge-st. baths; and structural alterations to East Moor school, Adel, for T.C. J. E. Acfield, City E.

London.—Railings.—1,400 ft. of 4 ft. 6 in. and 5 ft. 6 in. wrought-iron railings, for Deptford B.C. B.E. and S.

Mickleover.—House.—Medical Superintendent's house at County Mental Hospital, for Derbyshire C.C. County Architect, County Offices, Derby.

Weymouth and Melcombe Regis.—Conveniences.—Public convenience in Alexandra-gardens; extensions to existing convenience at entrance to Corporation-yd., Westham-embankment-bridge, for T.C. R. W. Vine, B.E. and S.

JANUARY 14.

Bentley-with-Arksey.—Installation.—Of electric light in special subjects block at Bentley-rd. Council school, for West Riding E.C. Education Officer, County Hall, Wakefield.

Birmingham.—Houses.—6 houses for firemen and additional machine room, etc., at Perry Barr fire station, for T.C. H. H. Humphries, City E. and S. Dep. £2.

Brampton Bierlow.—Installation.—Of electric light at new infants' school, for West Riding E.C. Education Officer, County Hall, Wakefield.

Crossmaglen.—Repairs.—To labourers' cottages, for R.D.C. W. R. Bell, Clerk.

Dunscroft.—Building.—Removal of temporary school building from Edlington to Dunscroft Council school and erection of conveniences, for West Riding E.C. Education Officer, County Hall, Wakefield.

Hull.—Renovations.—Renewal and renovation of exterior stonework at Beverley-rd. baths, for T.C. Herbert Hamer, City E.

Kendal.—Abattoir.—Public abattoir buildings at Sandylands, for T.C. F. W. Oxberry, B.S. Dep. £2.

Kingston-upon-Hull.—Renovations.—Renewal and renovation of exterior stonework at Beverley-rd. baths, for T.C. Herbert Hamer, City E.

Lincoln.—Chapel.—Wesleyan School Chapel, St. Giles Housing estate, for Trustees. Golder & Kitchen, architects, 120, Alfred Gelder-st., Hull. Dep. £2 2s.

London.—Office.—New cartage office at Paddington Goods Station, for G.W.R. Engineer, Paddington Station, W.2. Dep. £2 2s.

Sheffield.—School.—Junior school at Hatfield House-lane, Shiregreen, for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £2.

JANUARY 15.

Croydon.—Building.—(a) Small extension to open air class-room at "Crosslands," 386, 388, London-rd., Croydon; and (b) small sun verandah at babies' block, Queen's-rd. Homes, Croydon, for C.B. H. Berney, architect, 33-35, High-st., Croydon. Dep. £1 1s.

***Hastings.**—Reconstruction of White Rock Baths. Borough Engineer, 37, Wellington-sq. Dep. £10 10s.

Hull.—Office.—Estate Office with flat over, on Endike-lane estate, for T.C. D. Harvey, A.R.I.B.A., City Architect. Dep. £1 15s.

Hull.—Houses.—22 non-parlour on East Hull estate, for T.C. D. Harvey, A.R.I.B.A., City Architect.

Plymouth.—Fencing.—750 yds. of wrought-iron fencing, for T.C. J. Wibberley, City E.

Rochdale.—Demolishing.—Pulling down houses numbered 27, 29, and 31, High-st., and removal of materials, for T.C. B.S.

Sheffield.—Sorting Office.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

JANUARY 16.

***Exminster.**—Nurses' Home at the Devon Mental Hospital. County Architect, 97, Heavitree-rd., Exeter. Dep. £3 3s.

Near Barnsley.—Extensions.—Also alterations to South Hiendley Recreation Club, South Hiendley, near Barnsley. W. T. Lynam, architect, Market-chambs., Hemsworth, near Pontefract. Dep. £1.

Stevenage.—Stables.—Stables, stalls and sheds, for U.D.C. R. A. Gandy, S. Dep. £2 2s.

Turriff.—Houses.—16 houses at Hillcrest (West), for T.C. W. L. Duncan, F.R.I.B.A., architect.

West Riding.—Improvements.—(1) Internal renovations and alterations at Ripon Institution; (2) internal renovations at Selby Institution; (3) internal renovations at Knaresborough Institution; (4) internal renovations at Penistone Institution; (5) external painting at Great Ouseburn institution, for C.C. West Riding Architect, County Hall, Wakefield.

JANUARY 18.

Acton.—Flats.—Eight flats in two blocks at Brouncker-rd., W.3, for T.C. W. G. Cross, B.E. Dep. £2.

***Horsham.**—Pumping Station, etc.—For the U.D.C. Clerk, Council Offices, Horsham-pk. Dep £5 5s.

London.—Painting.—Cleaning, painting and repairs, Eastern Hospital, Homerton-grove, E.9; St. Luke's Hospital, Lowestoft; Chelsea Institution, Arthur-st., S.W.3; Westminster Institution, 367, Fulham-rd., S.W.10. Repairs to roads, yards and paths, Leavesden Mental Hospital, Abbot's Langley, Watford, for C.C. Chief Engineer, The Old County Hall, Spring Gardens, S.W.1. Dep. £1.

***Slough.**—Public Convenience.—For the U.D.C. Engineer and Surveyor, Council Offices, William-st., Slough.

Walsall.—Shops, etc.—Shops and offices in Freer-st., The Square, Bridge-st. and Leicester-sq., for Corporation. B.S. Dep. £3 3s.

JANUARY 19.

Bristol.—Alterations.—Builder's and plumber's work for Council school at Filton-av., for T.C. W. J. Stenner, architect, 29, Berkeley-sq., Clifton. Dep. £2 2s.

Bristol.—Alterations.—Builder's and plumber's work for alterations and additions to Upper Horfield Council school, Sheridan-rd., for T.C. R. C. James, architect, 31, Nicholas-st. Dep. £2 2s.

***Malton (Yorks).**—Alterations.—To Post Office, for H.M.O.W., Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

JANUARY 20.

Bangor.—Additions.—Alterations and additions to Bala-Bangor Independent College, Bangor, for Trustees. Principal Morgan Jones, Bala-Bangor College, Bangor.

Bootle.—Houses.—40 houses, Fernhill-rd., for Corporation. B.E. and S. Dep. £2 2s.

Cranwell.—Heating.—Accelerated low-pressure hot water heating, etc., at Royal Air Force College, for H.M.O.W., Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Edinburgh.—Extension.—East and West wings of City Chambers, for T.C. E. J. MacRae, A.R.I.B.A., City Architect. Dep. £2 2s.

London, S.W.6.—Thames Flood Defence Works.—For Fulham B.C. T.C., Town Hall. Dep. £2.

Roborough.—Alterations.—To farm buildings, for Devon C.C. County Clerk, 21, Southernhay West, Exeter.

Walsall.—Houses.—Eight four bedroom and 125 non-parlour type on Field-rd. (section 9), for T.C. J. Taylor, B.E. and S. Dep. £3.

JANUARY 21.

Cork.—Hall.—New city hall and municipal offices on site at Albert-quay, for Corporation. Jones & Kelly, architects, 17, South Frederick-st., Dublin. Dep. £10 10s.

Elland.—Repairs.—To Mirfield Knowl council school, for West Riding E.C. G. Dodgson, Education Office.

Newcastle-upon-Tyne.—Houses.—206 on St. Anthony's Housing estate, for T.C. Housing Architect, 18, Cloth Market, Newcastle. Dep. £2 2s.

JANUARY 23.

Solihull.—Dwellings.—56 non-parlour type of houses on Cranmore Farm estate, Shirley, for R.D.C. Ewen Harper Bro. & Co., architects, Ruskin-chams., 191, Corporation-st., Birmingham. Dep. £1 1s.

JANUARY 25.

Carlisle, Padiham and Kearsley.—Site Works, etc.—For Central Electricity Board. Secretary, Trafalgar-bldgs., 1, Charing Cross, S.W.1. Dep. £2 2s.

Portishead and Upper Boat.—Site Works, etc.—For Central Electricity Board. Secretary, Trafalgar-bldgs., 1, Charing Cross, S.W.1. Dep. £2 2s.

JANUARY 26.

Sligo.—Installation.—Of electric light at District Mental Hospital, for Committee. D. McAteer, consulting engineer, 17, Upper Merrion-st., Dublin. Dep. £2.

JANUARY 27.

Liverpool.—Houses.—(a) 116 non-parlour houses and maisonettes on portion No. 3a of the Dovecot estate, and (b) 46 parlour houses and maisonettes on the Prescot-rd. frontage of Knotty Ash Estate, for T.C. Director of Housing. Dep. £1 1s.

FEBRUARY 2.

***Leytonstone, E.11.**—Extension.—To Electricity offices. Town Clerk, Town Hall, Leyton, E.10. Dep. £3.

MARCH 1.

Uruguay.—Slaughterhouse.—Large slaughterhouse and plant, for Frigorifico Nacional. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. No. G.X. 10927.)

NO DATE.

Duisdale.—Cottage.—In Duisdale, Isleornsay, Isle of Skye. J. Robertson, 139, Queen Margaret-drive, Kelvinside, Glasgow.

Plympton St. Mary.—Installation.—Electric light installations on premises at Brixton and Yealmpton, for R.D.C. P. T. Loosemore, clerk.

Shipley.—Installation.—Electric installation at new public offices, for U.D.C. Electrical Engineer, Electricity Works, Dockfield.

Tideford.—Repairs.—Internal decorations of Tideford Church, and sundry repairs. Rev. C. H. Rogers, Tideford Vicarage.

West of England.—Repairs.—New building works and maintenance of military buildings at Wessex Area (West), comprising Counties of Somerset, Devon and Cornwall, for War Dept. L. Hall, Lt.-Col., R.E., Commander Royal Engineers, Wessex Area (West).

MATERIALS, etc.

JANUARY 11.

Dundee.—Cement.—For T.C. D. B. M'Lay, C.E.

Chorley.—Road Materials.—For R.D.C. W. Catterill, S.

Fife.—Road Materials.—For C.C. J. M. Mitchell, County Clerk.

Johannesburg.—Tar.—4,250 tons of tar or tar substitute, for T.C. Dept. of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. B.X.7204.)

Manchester.—Bronze Castings. Bertram B. Jones, Director of Public Cleansing.

JANUARY 12.

Leeds.—Setts.—1,500 tons of granite paving setts for T.C. Chairman, Tramways and Transport Committee, Tramways Office, Swinegate.

JANUARY 13.

Bradford.—Limestone, etc.—For T.C. F. Marsden, City E. and S.

JANUARY 15.

London.—Bricks, etc.—For Islington B.C. Chief Electrical Engineer, Electricity Works, 60, Edengrove, Holloway, N.7.

JANUARY 16.

Bexley.—Highway Materials.—For U.D.C. G. A. Joy, S.

Dorset.—Road materials.—For C.C. C.S., Dorchester.

Holland (Lincs).—Granite, etc.—For C.C. Wm. A. Rogerson, C.S., Boston.

Horsforth.—Highway Materials.—Jas. E. Aldersley, S.

London, E.1.—Builders' Materials.—For Stepney B.C. T.C., Municipal Offices, Raine-st., Old Gravel-lane. Dep. £1 (Treasury note).

Swinton and Pendlebury.—Tarmacadam.—For U.D.C. Henry Entwisle, S.

JANUARY 18.

London.—Highway Materials.—For Camberwell B.C. W. Bell, B.E. and S.

JANUARY 19.

Chertsey.—Granite, etc.—For U.D.C. E. J. Castle, clerk.

Kingston-upon-Hull.—Plumbers' Materials.—For T.C. J. N. Waite, City Electrical Engineer and Manager, Electricity Works, Sculcoates.

JANUARY 20.

Essex.—Highway Materials.—For C.C. R. H. Buckley, C.S., Chelmsford.

Gainsborough.—Road Materials.—For R.D.C. E. Donelly, S., 17, Morley-st.

London.—Highway Materials.—For Chelsea B.C. T.C., Town Hall, King's-rd., S.W.3.

JANUARY 21.

Liverpool.—Stoneware.—Stoneware troughing, tiles and concrete cable covers, for T.C. City Electrical Engineer, 24, Hatton-garden.

Wealdstone.—Tarmacadam.—For U.D.C. P. G. May, S.

JANUARY 22.

Belfast.—Builders' Materials.—For Electricity Dept. City Electrical Engineer and General Manager, East Bridge-st.

Cheltenham.—Highway Materials.—For T.C. J. S. Pickering, B.E.

Croydon.—Road Materials.—For C.B. B.E.

Farnborough.—Road Materials.—For U.D.C. J. E. Hargreaves, E. and S.

Spalding.—Highway Materials.—For R.D.C. H. C. Tucker, S.

JANUARY 23.

Grimsby.—Road materials.—For R.D.C. J. B. Wikeley, E. and S.

London.—Cement, etc.—For Paddington B.C. W. F. Abbiss, T.C.

Oldham.—Granite.—For C.B. B.E. and S.

JANUARY 25.

Blackpool.—Builders' Materials.—For C.B. Borough Treasurer.

Finchley.—Granite, etc.—For U.D.C. P. T. Harrison, E.

Lincoln.—Tar.—For Lindsey (Lincs.) C.C. A. G. Bradshaw, C.S., Newland, Lincoln.

JANUARY 26.

Southall-Norwood.—Highway Materials.—For U.D.C. J. B. Thomson, E. and S.

JANUARY 30.

Canterbury.—Road Materials.—For T.C. H. M. Enderby, City E. and S.

Hertfordshire.—Granite, etc.—For C.C. A. Ernest Prescott, C.S., Hatfield.

London.—Building Materials.—For Finsbury B.C. B.E.

FEBRUARY 1.

Bridgwater.—Road Materials.—For T.C. R. A. Watson, B.E. and S.

FEBRUARY 3.

Southend-on-Sea.—Building Materials.—For C.B. A. C. Johnson, Borough Electrical Engineer and Manager, 65, London-rd.

FEBRUARY 10.

Middlesex.—Tar, etc.—For C.C. A. Dryland, C.E., Middlesex Guildhall, Westminster, S.W.1.

Middlesex.—Road Materials.—For C.C. A. Dryland, C.E., Middlesex Guildhall, Westminster, S.W.1.

FEBRUARY 15.

Folkestone.—Cement.—For T.C. H. O. Jones, B.E.

FEBRUARY 16.

Tottenham.—Road Materials.—For U.D.C. E. Townson, clerk.

ENGINEERING, IRON AND STEEL.

JANUARY 11.

Birmingham.—Reconstruction.—Steel and concrete of superstructure of roving bridge over canal arm to Corporation Wharf, Cheston-rd., Aston, for T.C. H. H. Humphries, City E. and S. Dep. £2.

JANUARY 12.

Bute.—Widening.—In masonry, of road bridges, at Monymhor and King's Cross, Lamlash, Arran, for C.C. A. C. Crockett, Road Surveyor, Lamlash, Arran. Dep. £2 2s.

Durham.—Footbridge.—Lattice girder footbridge over River Tees at Cotherstone, for C.C. William J. Merrett, C.E. and S., 43, Old Elvet, Durham.

Kincardine-on-Forth.—Steelwork.—For bridge, for Joint Committee of C.C.'s of Stirling and Clackmannan. Sir A. Gibb & Partners, engineers, Queen Anne's-gate, S.W.1. Dep. £10 10s.

Selkirk.—Sewage.—Sewage disposal works, consisting of tanks, filters, and accessories; and of various sewers, for T.C. G. Thomson & Son, chartered civil engineers, 164, Bath-st., Glasgow, C.2. Dep. £2 2s.

JANUARY 13.

Wincanton.—Water Supply.—For Penselwood, for R.D.C. Aubrey J. Allen, E., Half Moon-st., Sherborne. Dep. £5.

JANUARY 14.

Cardiff.—Bridge.—Under Taff Vale Line near Whitchurch Station, for G.W.R. Engineer, Paddington Station. Dep. £2 2s.

Leyburn.—Extensions.—To sewage disposal works, for R.D.C. Fred J. Rodwell, chartered engineer, 37 and 38, Prudential-bldgs., Park-row, Leeds. Dep. £1 1s.

JANUARY 16.

Cawood.—Repairs.—To bridge which carries Cawood to York County-rd. over River Ouse at Cawood, near Selby, for West Riding C.C. West Riding Surveyor, County Hall, Wakefield. Dep. £1.

Glasgow.—Girders.—Steel plate girders and cross girders required for three bridges to carry the 48-in. syphon pipes over Aberfoyle to Glasgow-rd., near Balfron Station; L. & N.E. Railway at Balfron Station; and River Endrick, about 1¼ miles from Balfron Station, for T.C. Geo. Henshilwood, Engineer and Manager, Water Department, 50, John-st., Glasgow, C.1.

West Riding.—Reconstruction.—Of Upper Fox bridge, which carries County-rd. leading from Sherburn to Cawood over Ash Row Drain, Sherburn, Tadcaster, for C.C. West Riding Surveyor, County Hall, Wakefield. Dep. £1.

JANUARY 18.

Barking.—Tanks.—Joint pumping station storm-water tanks, storm-water outfall and appurtenant works at Barking, for Borough of Ilford and Borough of Barking. W. H. Radford and Son, engineers, Albion-chams., King-st., Nottingham. Dep. £5 5s.

Darlaston.—Drainage.—1,600 lin. yds. of stoneware, concrete and cast-iron storm-water sewers, varying in dia. from 9 ins. to 21 ins., together with manholes, gullies, gully connections, and other works, for U.D.C. Dodd & Watson, engineers, Wellington House, Bennetts Hill, Birmingham. Dep. £1 1s.

Dunblane.—Waterworks.—Additional filters, meter house, etc., at Kippenrait, for T.C. Warren & Stuart, engineers, 94, Hope-st., Glasgow. Dep. £2 2s.

Loughborough.—Reservoir.—Covered mass concrete reservoir at Blackbrook Impounding Reservoir, near Loughborough, for T.C. F. Walter Hodson, consulting engineer, Bank-chambers. Dep. £5 5s.

JANUARY 20.

Middlesex.—Sewerage.—Main sewers of brickwork, concrete and cast-iron segments for West Middlesex main sewerage, for C.C. Dodd & Watson, engineers, Wellington House, Bennetts-hill, Birmingham. Dep. £5 5s.

JANUARY 21.

Motherwell and Wishaw.—Drainage.—Construction of sewage purification works, Lower Carbarns, Wishaw, for T.C. B.E. Dep. £10 10s.

Oxford.—Sewerage.—5,022 yds. of stoneware pipe sewers, 9 in., 12 in. and 15 in. dia.; 763 yds. concrete tube sewer, 18 in. dia.; and 457 yds. 6 in. dia. cast iron rising main, together with manholes and other incidental works, in Barton, Old Headington, and New Marston districts, for T.C. J. F. Richardson, City E. Dep. £2 2s.

Sittingbourne and Milton.—Sewerage.—Sewage disposal works adjoining Milton Creek and for cast-iron rising mains and syphons, pumping stations and storm overflows, and other works incidental thereto, for U.D.C. A. P. I. Cotterell & Son, engineers, 54, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

JANUARY 31.

Mablethorpe and Sutton.—Building.—Pumping station and iron water mains, for U.D.C. Silcock & Simpson, engineers, 25, Victoria-st., Westminster, S.W.1. Dep. £5.

FEBRUARY 8.

Hayes and Harlington.—Sewage Disposal.—For U.D.C. E. A. Sandford Fawcett, E., 53, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

Northam.—Reservoir.—Concrete service reservoir, laying main, and other work, at Appledore, for U.D.C. W. G. Champion, S. Dep. £2 2s.

FEBRUARY 15.

Johannesburg.—Bridgework.—1,790 tons of steelwork, troughing, etc., for the new Buffalo River Bridge, East London, for South African Railways and Harbours. Dept. of Overseas Trade, 35, Old Queen-st., London, S.W.1. (Ref. No. G.X. 11007.)

FEBRUARY 18.

Cairo.—Waterworks.—For Egyptian Ministry of the Interior. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. No. G.X. 10962.)

ROAD, SEWERAGE, AND WATER WORKS.

JANUARY 11.

Blean.—Sewer.—110 yds. lin. of 9-in. stoneware pipe sewer, 3 manholes and other work appertaining thereto in Pigeon-lane, Herne, near Herne Bay, for R.D.C. F. A. Ward, S. and E.

Congleton.—Pipes.—2,000 tons of cast iron regular pipes and specials, for Odd Rode and district water scheme, for R.D.C. H. Lapworth, E., 25, Victoria-st., S.W.1. Dep. £2.

Ilkeston.—Pipes.—370 tons of cast iron regular pipes and specials of 16 in. and 14 in. dia., for T.C. H. Lapworth, E., 25, Victoria-st., Westminster, S.W.1. Dep. £2.

Leatherhead.—Making-up.—Of Highlands-av., also construction of 9 in. and 6 in. surface water sewers in Highlands-av. and Poplar-av., for U.D.C. S. K. Drake, S. Dep. £1 1s.

JANUARY 12.

Doncaster.—Sewerage.—In Chequer-rd. and Childers-st., for C.B. F. Oscar Kirby, B.E., 2, Priory-place. Dep. £5 5s.

Kincardine-on-Forth.—Foundations.—Also piers, approach spans, roadway, fendering, etc., for new bridge, for C.C.s of Stirling and Clackmannan Sir A. Gibb & Partners, Queen Anne's-gate, S.W.1 Dep. £10 10s.

Leeds.—Reconstruction.—Of certain streets, for T.C. Secretary, Tramways Office, Swinegate, Leeds.

Seer Green.—Repairs.—To footpaths in parish of Seer Green, for P.C. G. H. Smith, clerk, "Blakeney," Seer Green, Beaconsfield.

Sutton and Cheam.—Making-up.—Church Hill-rd., section 1; D'Arcy-rd.; Wordsworth-drive; Kenley-walk; Colborne-way; Farm-way, for U.D.C. Wm. Hedley Grieves, S. Dep. £1 1s. each.

JANUARY 13.

Bucklow.—Extension.—93 yds. of 12-in. stoneware pipe sewer, together with manhole road and field reinstatement and maintenance, off Bloomsbury-lane, Timperley, for R.D.C. H. V. Shaw, E. and S.

London.—Making-up.—Of Fairweather-rd. and mews rear of Stoke Newington High-st., for Hackney B.C. P. Holt, B.E. and S. Dep. £1 each.

Rochdale.—Asphalte.—Supplying and laying single-coat asphalte in Yorkshire-st. and Edenfield-rd., for C.B. B.S.

Sutton and Cheam.—Drainage.—Laying, construction, completion and maintenance of concrete tube surface water sewers all in open cut, together with manholes and appurtenant works, for U.D.C. Wm. Hedley Grieves, E. and S. Dep. £3 3s.

Weetslade.—Making-up.—Of several private streets in Annitsford, for U.D.C. H. G. McNaught, S. Dep. £1 1s.

Weymouth and Melcombe Regis.—Making-up.—Of Coronation-rd. and South Down-view, for T.C. R. W. Vine, B.E. and S.

JANUARY 14.

Leyton.—Paving.—Of Cavendish-drive and other roads, for T.C. A. P. Howell, B.E. and S. Dep. £10.

Every modern builder uses "HENDERSON" Door Gear because—it is easy to understand, order and erect. Can be seen at work in every town & is Fully GUARANTEED.

Write on your business letter heading for fully illustrated Catalogue No. 32

P.C. HENDERSON LIMITED
TANGENT WORKS
BARKING · ESSEX
GRANGEWOOD 0247
PRIVATE BRANCH EXCHANGE

JANUARY 16.

Devizes.—Sewer.—150 yds. of 9 in. glazed stoneware pipe sewer on Caen Hill site, for T.C. A. W. Jakeway, B.S.

Hailsham.—Spraying.—Tarspraying about 200,000 super. yds. with distilled tar, for R.D.C. A. Carr, Clerk.

JANUARY 19.

Barking.—Sewerage.—2,150 yds. lin of concrete tube and cast-iron pipe sewer, varying in size from 15 in. to 30 in., with manholes and appurtenant works for T.C. W. H. Radford & Son, civil engineers, Albion-chambs., King-st., Nottingham. Dep. £3 3s.

Bootle.—Improvements.—Sewering and paving works in back passage between 20 to 48, Spenser-st and 21 to 53, Salisbury-rd., for C.B. B.E.

Bromley.—Improvements.—In Holmcroft-way (part), for T.C. B.E. Dep. £1.

Cupar.—Water Supply.—Cutting tracks and laying and jointing 6-in. and 3-in. steel pipes and 2-in. cast-iron pipes, with relative works, at Asylum, Springfield, for Fife Joint Asylum Committee. J. & A. Leslie & Reid, C.E., 72a, George-street, Edinburgh. Dep. £1.

Hendon.—Making-up.—Millway (2nd portion), Weymouth-av., Russell-grove, Sheaveshill-av., Colin Park-rd., Courtway, Manor Way, Poolsford-rd., New Way-rd., Colin-close, Beaulieu-close, Orchard-gate, Richmond-gdns., Colindeep-gdns. and Hurstwood-rd., for U.D.C. A. O. Knight, E. and S. Dep. £5 5s.

JANUARY 19.

Cheshunt.—Sewers.—Roads, surface-water sewers, etc., in Franklin-av., Ripley-way and Bakers-rd., for U.D.C. J. E. Sharpe, E. and S. Dep £2 2s.

Tottenham.—Reconstruction.—Of Lordship-lane from Wood Green boundary to Lordsmead-rd. and Bruce-grove in two coat asphalt approximately 12,000 sq. yds., for U.D.C Capt. H. F. Wilkinson, E. Dep. £2.

JANUARY 20.

Edinburgh.—Sewer.—New 18-in. dia. fireclay pipe outlet sewer leading from Corporation's Saughton Golf Course housing site, across Balgreen-rd., and eastwards along road through Corporation Parks Department nursery ground to water of Leith, thence in 18-in. dia. steel piping across said water of Leith, to join an existing brick-built sewer, for T.C. B.E

Liwshwr.—Sewerage.—Construction and laying of about 3,592 yds. of 9, 12, and 15-in. stoneware and about 265 yds. of cast-iron sewers at Pontlliw, for U.D.C. Francis T. James, E. and S. Dep. £1 1s.

JANUARY 22.

***Rugby.**—Roads and Sheds.—Construction of, for H.M.O.W., Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

JANUARY 27.

Herne Bay.—Making-up.—Of (*a*) Clifftown-gdns. (part 1); (*b*) York-rd., for U.D.C. B. J. Wormleighton, S.

JANUARY 28.

Congleton.—Pipes.—Laying of about 35 miles of cast-iron pipes and specials from 9 in. in dia. downwards, together with valves, hydrants, meters, etc., for R.D.C. Herbert Lapworth, E., 25, Victoria-st., Westminster, S.W.1. Dep. £5.

Lichfield.—Sewage.—Sewage disposal works and laying of rising main at Alrewas, for R.D.C. C. E. Mays, E. Dep. £2 2s.

FEBRUARY 9.

Crewe.—Making-up.—(1) Between Bright-st. and Richard-st (including sewering); (2) rear of 74, Samuel-st. to 23a, Bright-st.; (3) rear of 98-106, Nantwich-rd.; (4) rear of 4-42, Laura-st. (including sewering); (5) rear of 2, Laura-st. to 172, Gresty-rd., for T.C. L. Reeves, B.E. and S. Dep. £2 2s

NO DATE.

Brigg.—Mains.—Providing and laying water mains and fittings in parishes of Flixborough, Gunness, Brumby, Burringham, East Butterwick, Messingham, Bottesford, Broughton and Scawby, for Glanford Brigg R.D.C. J. H. Haiste, consulting engineer, Middleton-chambs., Lowgate, Hull. Dep. £5.

Public Appointment

JANUARY 14.

***Horsham.**—Clerk of Works required by the U.D.C. Clerk, Council Offices, Horsham-pk.

JANUARY 16.

London, S.W.—Junior Engineering Assistant required by Lambeth B.C. T.C., Town Hall, Brixton-hill, S.W.2.

JANUARY 18.

***Slough.**—Housing Foreman.—For the U.D.C. Surveyor, Council Offices, William-st., Slough.

Private Companies.

Messrs. Jordan & Sons, Ltd., have published a useful little book on "Converting a Business into a Private Company." Mr. Herbert W. Jordan, the author, has clearly and concisely expressed the reasons that may lead to the turning of a business into a private company, advantages that accrue from it, and the best means of setting about it. The book is priced at 1s. 6d.

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

Aberdeen.—Plans approved by Corporation: Reconstruction and additions at Union Wynd, Wilson & Walker, architects, 135, Union-st.; alterations and additions, 1-11, Portland-st., R. R. Gaul, architect, 177, Union-st.; reconstruction at 35, Union-st., W. E. Gaul, architect, 19, Diamond-st.; garage at 526, King-st., G. Watt, architect, Union-st.; alterations and additions at Forrest-av., T. Scott Sutherland, architect, Crown-st.; alterations and additions at King-st., W. C. Henderson, architect, Kintore; alterations and additions at 397-401, King-st., E. L. Sutherland, architect, 154, Union-st.

Alexandria.—Dumbartonshire C.C. to erect at Admiralty site 155 houses. J. Weekes, architect, 18, Park-circus, Glasgow.

Bath.—Property Committee of T.C. approved plans for alterations to 20 and 21, Southgate-st. and 17, New Bond-st. and 33, Milsom-st.—T.C. recommend £300 for fence and entrance gate, Odd Down Playing-fields.

Birmingham.—Public Works and Town Planning Committee recommend widening of portion of Flaxley-rd., Stechford, at £15,500.—E.C. recommend that, subject to approval of B. of E. and M.H., provision of additional school accommodation at Yarnfield-rd. council school, to borrow £5,600 to cover cost.—Subject to sanction of B. of E. and M.H., proposal to transfer land at Shortheath-rd., Erdington, from E.C. to Public Works and Town Planning Committee.—Salvage and Stables Committee recommend £17,000 in connection with reconstruction of Rotton Park-st. depot.

Bournemouth.—T.C. approved: alterations, Imperial Hotel, Meyrick-rd., Imperial and Grand Hotels, Ltd.; hotel corner Broadway-lane and Castle-lane, Strong & Co.; 14 pairs of houses, Evershot-rd., Castle-lane, The Hants Land Society; 6 houses and garages, Frances-rd., Mrs. A. Richards.

Braintree.—M.H. held inquiry into application of R.D.C. to borrow £13,876 to cover extra expenditure incurred in connection with sewerage and sewage disposal works of Bocking, Coggeshall and Kelvedon.

Coventry.—T.C. approved: alterations and additions to club premises, Cox-st., Coventry Working Men's Club; 6 houses with shops, Walsgrave-rd., A. E. White; 18 houses, Beechwood-av., R. H. Bridge & Co.; laundry premises, Swan-lane, South Midlands Co-operative Laundries, Ltd.; 6 houses, Oldfield-rd., H. C. Weller; showroom, White-st., Tuck & Blakemore, Ltd.; 4 houses, Coventry-rd., Exhall, E. A. Smith; 22 houses, Radford-rd., Keresley, J. R. Newman; 8 houses, Wallace-rd. (Moat House estate), J. H. Breeze; sub-station, Anstey-rd., Walsgrave-on-Sowe, Corporation Electricity Dept.; 10 houses, Woodclose-av., Westhill estate, J. H. Breeze; 26 houses, Woodclose-av., Westhill estate, R. H. Bridge & Co.

Doncaster.—T.C. approved: 16 houses, Avondale-rd., J. L. Hepworth; 6 houses and 4 garages, Wentworth-rd., S. Benson.

Dudley.—Housing Committee of T.C. report plans for two-story flats on Wolverton-rd. site had been approved by M.H.

Dumbartonshire.—At £3,000, 8 four-apartment houses, to be erected at Croy and at Condorrat; 28 houses, at £10,300. J. Weekes, architect, 18, Park-circus, Glasgow.

East Barnet.—U.D.C. approved: 5 shops with flats over, Brookhill-rd., W. A. Bruce.

East Retford.—R.D.C. approved: Doncaster Wesleyan Association, additions to Wesleyan Chapel, Finningley.

Edinburgh.—Plans passed: Grand stand gates, for Stenhouse Mills and Shaughton Mills, Gorgie, architect, A. L. Goodwin, 54, Castle-st.; reconstruction, etc., at South Coburg-pl., architects, T. P. Marwick & Son, Northumberland-st.; electricity sub-station at Milton-rd., architect, E. J. MacRae, High-st.-chambs.; entrance lodge at Moredeenhouse, Gilberton, for Edinburgh Royal Infirmary, architect, Thomas W. Turnbull, Royal Infirmary; alterations and additions at Chalmers Hospital, Lauriston-pl., H. C. Tarbolton, architect, 84, Colme-st; 2 houses and 2 garages at Frogston-rd., G. Martin, architect; alterations at house cleansing and lighting depot, Balcarres-st., J. E. MacRae, architect, High-st.; alterations, etc., at Residence of Scottish Naval and Military Veterans, Whitefordhouse, Calton-rd., T. P. Marwick & Son, architects, Northumberland-st.

Finedon.—U.D.C. to erect 24 houses, Thrapston-rd. site. E. J. Lewis, S.

Greenock.—Plans passed for premises, etc., Greenock Central Co-operative Society, Ltd, Roxburgh-st.

Guildford.—T.C. reported that Rector of S. Nicolas decided to proceed with purchase of site at Foxburrows-av., Westborough estate, for church or school.—Estimated cost of 4 cottages to be erected by Water Committee off Woking-rd. is £1,750.

Henley.—T.C. approved: Alterations, Technical Institute, Duke-st., for County E.C.

Hollingbourne.—R.D.C. approved: 7 houses, Huntsman's-lane, Boxley, T. Cook.

Horsforth.—U.D.C. approved: Blocks of 4 and 3 houses, Stanhope-drive, for E. P. Briggs.

Huddersfield.—Trustees of Roebuck Memorial Homes for Aged People propose "Rest Homes" in Wakefield-rd. Stocks, Sykes & Hickson, L.R.I.B.A., architects, 4, St. Peter's-st.

Kirkhamgate.—Extensions to be carried out to Silcoates Grammar school, for Governors. Wm. Illingworth, architect, Sunbridge-rd., Bradford.

Knutsford.—Waterproof Paper Co., Ltd., propose extensions. A. Clayton, L.R.I.B.A., Duchy-cham., 4, Clarence-st., Manchester.

Leeds.—Preliminary plans been deposited by London architect with City Engineer in connection with an application for consent of City Council to construction of amusement park in Roundhay-rd.

Letchworth.—U.D.C. recommend 50 non-parlour houses rear of Icknield-way.

Leyton.—T.C. has approved plans: Mills & Son, Ltd., new shop front and structural alterations at 363, Hoe-st., E.17; W. H. Gardner, set-back front of premises to building line of adjoining premises at 421, High-rd., Leyton; W. N. Margolis, set-back front of premises to building line of adjoining premises at 419, High-rd., Leyton.

Liverpool.—Finance Committee of Corporation decided to recommend Council to purchase 1,700 acres of Lord Derby's Knowsley estate for housing purposes.

London.—G.W.R. approved the following: Paddington, modernisations of lifts; Redruth, passenger station and accommodation; Iver, waiting-room improvements and additional platform covering; Oxford, improved parcels office and cloak-rooms and veranda covering; Congesbury, Torquay and Christow, housing accommodation for station-masters; Milford Haven, improved siding accommodation for docks and town traffic; Bassaleg, improved and additional siding facilities; Greenford, remodelling and extending goods station; Fowey, reconstruction of No. 4 Jetty; Clynderwen, Ilminster, Henwick, Whitland, new warehouses; Haverfordwest, extension of goods yard; Southall, Tiverton, Treorchy and Brentford, extension of goods accommodation.

London (Woolwich).—B.C. approved: F. Luckett & Son, 74, Griffin-rd., Plumstead, 6 houses, 50 to 60, Woodhurst-rd., Plumstead; Flood & Wright, 40, Archery-rd., Eltham, 14 houses, Villacourt-rd., Plumstead; Sykes & Pomfret, 8, Park-pl., Eltham (on behalf of Lincoln, Darby & Co.), 18 houses, Sidcup-rd., Eltham; J. Sutcliffe, B.E., electricity sub-station, Griffith's Wharf, Green-lane, North Woolwich.

Luton.—At £14,000, Vauxhall Motors, Ltd., building block of buildings at Luton works.

Maidenhead.—T.C. approved alterations and additions, York-rd., Maidenhead Football Club; 4 cottages, Ray Park-cottages, F. W. Harmer; 6 lock-up garages, York-rd., Ing & Son.

Malton.—R.D.C. propose 32 houses.

Manchester.—M.H. agreed to the proposal of Corporation to erect further 366 houses on Withenshawe estate.

Morecambe and Heysham.—Plans passed: Wm. Gardner & Co., 3 pairs of houses, Windsor-rd.; H. Hillman & Son, 4 pairs of houses, Longton-drive.

Newcastle-on-Tyne.—Plans for building-up of Heaton estate in Addycombe-terr.-Biddlestone-rd. area, begun before the War, and which is to be completed by erection of buildings to provide 110 small up-to-date flats, have been approved.—Plans by Merz & McLellan, Carliol-house, for sub-station in Back Ridley-st. for Newcastle Electric Supply Co. been approved.—Corporation inviting tenders for concrete platforms at 'bus station, Haymarket.—City Council purchased site at junction of Glenthorn-rd. and Bayswater-rd. for £3,500 for baths.—Plans for proposed Denton crematorium been approved by Cemeteries Committee, architect, J. J. Hill.—Plans by F. H. Holford, City S., boiler-house at Walkergate Hospital, for City Council approved.—Town Moor and Parks Committee recommends Council to purchase land in Denton-lane for new park.—J. Rowell & Sons, East-st., Gateshead, not yet placed contract for alterations to "British Lion" hotel. Plans by F. E. Dotchin, 46, Grainger-st. West.

Northampton.—C.B. resolved that Town Clerk proceed with application for appropriation of site in Bridge-st. for purposes of omnibus station. Plans passed: Trustees of Kingsthorpe Baptist Church, Public Hall, High-st., Kingsthorpe.

Norwich.—Application for permission to borrow £24,463 for purpose of municipal aerodrome at Norwich been subject of inquiry.

Nottingham.—T.C. to consider scheme for lay-out of Red Lion-st. area as housing estate, comprising 8 houses to each block, with proportion of flats similar to those erected on Colwick-rd. housing estate.

Nuneaton.—T.C. has passed resolution that the architect be authorised to invite tenders by advertisement for the erection of the remaining 170 houses on the Hill Top housing estate, and that the tenders be considered by the committee on February 9, 1932.—Plans passed include: Nuneaton Co-operative Society, Ltd., new offices, etc., and extension of garage, Merevale-av.; Nuneaton and District General Hospital Committee, new ward, General Hospital, Manor Court-rd.; and Hope & Aldridge, 9 houses, Bulkington-lane and Gipsy-lane corner.

Oakham.—R.D.C. to build 8 houses at Manton.

Oldham.—T.C. propose extensions to Water Sheddings Council School. J. Asburst, B.S.

Ormskirk.—Council to build 26 houses.—Council decided to apply for loan of £3,000 to erect houses on Mill-lane site, and £2,460 for houses on Derby-street site.—Plans passed:—alterations and additions at "Railway Hotel," for Threfall's Brewery Co., Ltd.

Paddock Wood.—Canning factory at Paddock Wood, for Wisbech Produce Canning Co. H. E. Dicks, architect, 1, Market-pl., Evesham.

Preston.—T.C. seeking borrowing powers for £28,250 in connection with fire station and firemen's dwellings in St. George's-rd.

Prestwich.—W. R. Sharp & Cowburn, F.R.I.B.A., 40, South King-st., Manchester, architects for synagogue and Hebrew school off King's-rd., Sedgley-pk., for Jewish congregration.

Reading.—M.H. held inquiry into application of Corporation to demolish 25 houses in Coley district.

Redditch.—U.D.C. decided to make application to M.H. for sanction to borrow £12,228 for sewerage works at Hunt End and Crabbs Cross; also for sanction for loan of £3,600 for acquisition of land in Salter's-lane for housing purposes.

St. Austell.—St. Austell Bay Hotel, Cornwall, destroyed by fire. Damage is estimated at £30,000.

Shipley.—U.D.C. approved: 4 houses, Wrose-rd., Claremont Land Development Co., Ltd.; 10 houses, Claremont-rd. (off Wrose-rd.), for Claremont Land Development Co., Ltd.; 46 houses, Wrose-rd., Low Ash-rd. and Low Ash-crescent, R. Blackmore.

Slough.—U.D.C. instructed S. to prepare plans for tea rooms at Lascelles playing fields, at £1,500.—Plans passed: 8 houses off St. Paul's-av., H. D. Mines; bay factory, Buckingham-av., Slough Estates, Ltd.; sub-station, Edinburgh-av., Slough Estates, Ltd.

Southgate.—U.D.C. approved: Ideal Housing Co., 24 houses and 19 garages, The Birches, N.21, and 10 houses and 10 garages, 25-43, Willow-walk, N.21; G. E. Bolton, 12 houses and garages, 24-46, Mortonway, N.14; North Metropolitan Electric Power Supply Co., sub-station, Oak Lodge estate, East Barnet-rd., N.14.

South Mimms.—R.D.C. approved: Several bungalows in Ladbroke-drive, Mr. Hicks; sub-station in Galley-lane, North Metropolitan Electricity Supply Co.

Sunderland.—Plans for alteration of mission hall, near centre of town into boxing stadium to hold about 1,200 people under consideration of T.C.—Corporation received sanction to borrow £365 for land in Ocean-rd., Grange Town, for houses.

Sutton.—Plans passed by Sutton and Cheam Council: 4 semi-detached houses, 2 in Clarkes-av. and 2 in Charminster-rd., P. E. Kerr; 20 bungalows, new road behind "Lord Nelson" public house, J. R. R. Oddy; 6 semi-detached houses, accommodation road off Gander Green-lane, Cowling & Lawes.

Twickenham.—S. Rly. prepared plans for new station on St. Margaret's side of Cole-bridge.

Walthamstow.—T.C. has passed plans for: Coal order office, The Avenue, A. E. Goodall; 6 houses, Higham Lodge estate, A. H. Middleton; 2 shop dwellings, Higham Hill-rd. (cr. Mt. Pleasant-rd.), A. C. Firmin; goods entrance, 43, High-st., A. E. Batzer; store, Duroglass Works, Blackhorse-lane, J. Sands; 4 houses and 1 garage, Marlborough-rd., P. G. Lees; store and office, rear 26, Walthamstow-av., Rugg & Dimond; 4 bedroom-type houses and garage, Woodlands estate, J. & J. Dean; addition to pavilion, London Hospital ground, Wadham-rd., G. Barker; additional floor to factory, Berwick-rd., M. B. Perry; alterations, 152, Hoe-st., S. R. Richardson.

Uxbridge.—Plans approved: main road, Cowley, 6 shops, W. S. Try; Park-rd., Uxbridge, 10 houses, W. S. Try; High-st., Uxbridge, 5 shops with residential upper parts, Robinson & Roods; transformer station, Waterloo-rd., Uxbridge, new w.c. and drainage, Central Electricity Board.

Weymouth.—T.C. approved: Andrews & Andrews, houses for estate, Gipsy-lane, for J. Hardy; F. Greenaway, block of three houses in Old Parish-lane, Westham, for Mr. Burt.

Willesden.—U.D.C. has approved following plans: Amended plan of 8 dwelling-houses and garages, Robson-av., N.W.10, by H. Shaw, for E. Stevens; pay-box and garage at the Palace Cinema, Kilburn-lane, by J. Stanley, Beard & Clare, for the Palace Cinema (Kensal Rise), Ltd.; sub-station and mess-room at Council's depot, Granville-rd., by A. W. Blake, for the Willesden U.D.C.; dwelling-houses at Aylestone-av. and Chudleigh-rd., Brondesbury-pk., by and for Messrs. C. W. B. Simmonds, Ltd.

Winchester.—E.C. having received consent from B. of E. has approved plan submitted by City Surveyor for providing alternative cloakroom accommodation at Western School. Managers are to proceed with work.

Wolverton.—Whole of 22 acres of building land on Bradwell-rd. to be purchased for building purposes by U.D.C.

York.—T.C. approved: Myers & Burnell, showrooms, Davygate; Committee, St. John's Diocesan Training College, additions, Lord Mayor's-walk; H. Williamson, 10 houses, Milson-grove; F. M. Dixon, 8 houses, Milson-grove, 4 houses, Millfield-lane, 4 houses, Owston-av.

*See also List of Contracts, Competitions, etc.

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.

[PRINCIPAL CHANGES OF THE WEEK.—Roman Cement drops by £2 per ton, and Fine Plaster by £1. R. S. J.'s and Plain Compound Girders and Stanchions are down by £1 10s. per ton.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 3 6
Second Hard Stocks	3 18 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 11 3	Best Blue Pressed Staffs	9 5 0
Do., grooved for Plaster	2 13 3	Bo. Bullnose	9 15 0
Do., Bullnose	3 5 3	Blue Wire Cuts	7 5 0
White Midhurst Facing Bricks (delivered London site)	5 0 0		

Best Stourbridge Fire Brick:—
2½ in. ..... 8 11 0 3 in. 10 3 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	21 0 0	D'ble Str'tch'rs	29 10 0
		D'ble Headers	26 10 0
Headers	20 10 0	One Side and two Ends	30 10 0
Quoins, Bullnose and 4½ in. Flats	27 10 0	Two Sides and one End	31 10 0
		Splays, and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours Hard Glaze £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. " "	2 4	4 in. "	3 6

	s. d.	
Thames Ballast	8 0 per yd	delivered 2 miles radius Paddington
Pit Sand	11 0 " "	
Thames Sand	11 0 " "	
Best Washed Sand	11 0 " "	
½ in. Shingle for Ferro-Concrete	8 6 " "	
¾ in.	11 0 " "	
½ in. Broken Brick	10 6 " "	
Pan Breeze	8 0 " "	

Per ton delivered in London area in full van loads.

Best Portland Cement.	British Standard Specification.	Test
In Jute Sacks (11 to ton)	£2 4 9 to	£2 6 9
In Free Paper Bags (20 to ton)	2 5 0 to	2 8 0

Alongside Vauxhall in 80 Ton Lots

Jute Sacks (11 to ton)	1 17 9
Free Paper Bags (20 to ton)	1 19 0
Ferrocrete per ton extra on above	0 7 6
Vitocrete per ton extra on above	0 7 6
Lightning Brand Aluminous Cement in Jute Sacks (20 to ton)	102 9 to 108 3 0

NOTE.—Jute Sacks are charged 1s. 6d. each and credited 1s. 6d. each nett if returned in good condition within three months carriage paid.

Super Cement (Waterproof)	12 0
Ciment Fondu (F. O.R. Works)	4 15 0
Roman Cement	6 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaste Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	4 12 0
Sirapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair per cwt.	2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 37s. 0d. per ton at rly. dp.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10
BEER STONE—RANDOM BLOCK— Free on rail at Seaton Station per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. per ft. cube	3 1½
Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.	
PORTLAND STONE— Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4½
Do. do. delivered on road wagons at above stations, per ft. cube	4 5½
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
CHILMARK—RANDOM BLOCK— At Nine Elms, per ft. cube	3 11
HOPTON-WOOD STONE— F.O.R. Quarries, Wirksworth, Derbyshire,	s. d.
Random blocks from 10 ft. and over P. ft. cb.	14 0
Sawn two sides "	22 6
Sawn three or four sides "	27 0
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station, London	
6 in. sawn two sides landings to sizes (under 30 ft. super) Per ft. super	5 6
6 in. rubbed two sides, ditto	6 0
3 in. sawn two sides slabs (random sizes) "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 6½
1¼ in. to 2 in. ditto, ditto "	1 3½
HARD YORK— Delivered at any Goods Station, London.	s. d.
Scappled random blocks Per ft. cube	6 8
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto "	6 1½
4 in. sawn two sides slabs (random sizes) "	2 1½
3 in. ditto ditto "	2 10
2 in. self-faced random flags Per yd. super	6 9

CAST STONE

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£24 10	3 × 6	£17 0
4 × 9	20 0	3 × 11	19 10
4 × 8	20 0	2 × 11	19 10
4 × 7	18 0	3 × 9	19 10
3 × 8	18 0	2½ × 9	19 10
3 × 7	18 0	3 × 4½	17 10
2½ × 7	18 0	3 × 4	17 10

PLANED BOARDS.

1 × 11 ..... £22 10 1 × 9 ..... £21 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	16/-	1¼	25/-
1	17/-	1½	27/6
1¼	20/-		

TONGUED AND GROOVED FLOORING

Inches	per sq.	MATCHING (BEST). Inches.	per sq.
1	21/-	¾	15/-
1¼	26/-	¾	16/6
1½	27/6	1	20/-
Ins. BATTENS.	s. d	SAWN LATHS.	s. d.
1 × 2 ..... per 100 ft.	2 0	Per bundle	2 3

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	£4 10 0 to —
Liquid Glue, per cwt.	4 7 0 to 5 10 0

SLATES

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	30 0 0	18 by 10	16 10 0
22 by 12	26 10 0	18 by 9	14 12 6
22 by 11	24 10 0	16 by 10	14 5 0
20 by 12	24 0 0	16 by 8	11 0 0
20 by 10	20 2 6		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons.

	Per 1,000. f.o.r. London.
Best machine-made tiles from Broseley or Staffordshire district	£4 10 0
ditto hand-made ditto	5 3 6
Ornament 1 ditto	5 8 6
Hip and valley tiles (per dozen) Hand-made	0 9 6
Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£11 0 0
Plain Compound Girders	12 0 0
" Stanchions	15 0 0
In Roof Work	18 0 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
⅜ in.	11 0 0	⅞ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—

Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Tubes. Wrought Mild Steel.	Genuine Staffs. Iron.	Fittings. ½ in. and under.	Over ½ in.	Flanges. ½ in. and under.	Over ½ in.
	%	%	%	%	%	%
Gas	62½	50	45	47½	55	57½
Water	58½	46½	40	42½	50	52½
Steam	55	42½	35	37½	45	47½
Galv. gas	50	37½	35	37½	45	47½
Galv. water	45	32½	30	32½	40	42½
Galv. steam	40	27½	25	27½	35	37½

*C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	10d.	7½d.	2½d.
3½ in.	10½d.	8½d.	2½d.
4 in.	10½d.	9½d.	2½d.
4½ in.	11½d.	10½d.	2½d.
5 in.	1/1½	11½d.	3½d.

*O.G. GUTTERS.

3 in.	1/0	10½d.	2½d.
3½ in.	1/0½	10½d.	2½d.
4 in.	1/1½	10½d.	2½d.
4½ in.	1/2½	1/0½	2½d.
5 in.	1/5	1/2½	3½d.

*RAIN-WATER PIPES, &c.

Per yd. in 6 ft. Pipe.		Bends, stock Branches angles, stock angles
2 in. plain	1/2½	9½d. 1/2
2½ in. "	1/3	10½d. 1/2½
3 in. "	1/6½	1/1½ 1/6½
3½ in. "	1/11	1/4½ 1/11½
4 in. "	2/2½	1/7½ 2/4½

*The above R.W. Goods prices are subject to an advance of 5% from October 29th, 1929.

L.C.C. COATED SOIL PIPES—London Prices ex Works

	Pipe, angles, stock angles	Bends, stock Branches
	s. d.	s. d.
2 in. per yd. in 6 fts. plain	2 1½	1 6½ 1 10½
2½ in. "	2 6	1 8½ 2 4
3 in. "	2 8	1 10½ 2 9½
3½ in. "	2 10½	2 4 3 3
4 in "	3 3	2 7½ 3 9

L.C.C. COATED DRAIN PIPES—London Prices ex Works

	Pipe, angles, stock angles	Bends, stock Branches
	s. d.	s. d.
3 in. per yd. in 9 ft. lengths	3 5	4 3 6 6
	cwt. qr. lbs.	
4 in.	1 1 20	4 5 8 10
5 in. "	1 2 22	6 3 9 0 14 1
6 in. "	2 0 6	6 11 10 11 18 1

Gaskin for jointing 41/- per cwt.

	Per ton in London. £ s. d.	£ s. d.
IRON— Common bars	10 10 0 to	11 0 0
Staffordshire Crown Bars Good merchant quality	10 15 0 to	11 10 0
Staffordshire Marked Bars	14 0 0 ...	15 0 0
Mild Steel Bars	9 10 0 ...	10 0 0
Steel Bars, Ferro-Concrete quality, basis price	8 0 0 ...	9 0 0
Hoop iron, basis price	11 0 0 ...	12 0 0
Galvanised "	27 0 0 ...	28 0 0
Soft Steel Sheets, Black— Ordinary sizes, to 20 g.	11 0 0 ...	11 10 0
" " " 24 g.	12 0 0 ...	13 0 0
" " " 26 g.	14 0 0 ...	15 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	13 10 0 ...	14 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	14 10 0 ...	15 10 0
Ordinary sizes, 6 ft by 2 ft. to 3 ft. to 26 g.	17 10 0 ...	18 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets— Ordinary sizes 6 ft. to 9 ft. to 20 g.	13 0 0 ...	14 0 0
Ordinary sizes 6 ft. to 9 ft. to 22 g. and 24 g.	14 10 0 ...	15 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	16 10 0 ...	17 10 0
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	18 0 0 ...	19 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	20 0 0 ...	22 0 0
Best Soft Steel Sheets, 26 g.	21 10 0 ...	23 0 0
Cut Nails, 3 in. to 6 in.	15 0 0 ...	16 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	0 9½
Strong sheet "	0 10
Thin "	0 11
Copper nails "	1 0
Copper wire "	0 11

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
29/- 45/- 76/- 153/- 246/- 510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
41/6 62/- 92/- 174/- 300/- 588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in. ¾ in. 1 in.
39/6 60/- 116/6 per doz.

CAPS AND SCREWS.

1½ in. 1¾ in. 2 in. 3 in. 3½ in. 4 in.
7/6 10/- 14/- 23/- 30/- 42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
7/6 11/- 17/- 29/- 36/- 63/- per doz.

BRASS SLEEVES.

1½ in. 2 in. 3 in. 3½ in. 4 in.
10/- 12/- 20/- 24/- 31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in. ¾ in. 1 in. 1¼ in. 1½ in.
35/- 56/- 98/- 162/- 228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

1½ in. 1¾ in. 2 in. 3 in.
6 lbs. P. traps ... 33/- 41/- 56/- 101/- per doz.
8 lbs. S. traps ... 35/- 45/- 66/- 126/- "

TIN.—English Ingots, 1/7 per lb. SOLDER.—Plumber's 9d., Tinmen's 10d., Blowpipe 11d. per lb.

*The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*cont.*)

LEAD, &c.

(Delivered in London.)	£	s.	d.
LEAD—Sheet, English, 4 lb. and up	23	10	0
Pipe in coils	24	0	0
Soil pipe	27	0	0
Compo pipe	27	10	0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 5s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	£13	10	0

PAINTS, &c.

	£	s.	d.
Raw Linseed Oil, in pipes ..... per gallon ...	0	1	9
" " " in barrels ... " ...	0	1	11
" " " in drums ... " ...	0	2	2
Boiled " " in barrels ... " ...	0	2	3
" " " in drums ... " ...	0	2	5
Turpentine in barrels	0	4	6
" in drums (10 galls.) ...	0	4	8
Genuine Ground English White Lead, per ton	47	10	0

(In not less than 5-cwt. casks.)
Extra for 1-cwt. kegs over 5-cwt. casks is 5/0 cwt.

GENUINE WHITE LEAD PAINT.
"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polaco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5 cwt. lots.

	£	s.	d.
per ton delivered ...	63	10	0
Red Lead, Dry (packages extra) ... per ton	33	0	0
Best Linseed Oil Putty ..... per cwt.	0	13	6
Size. XD quality ..... fkn.	0	3	0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per ft.		Per ft.	
15 oz. fourths ...	2½d.	32 oz. fourths	7½d.
15 " thirds ...	3½d.	32 " thirds	9½d.
21 " fourths ...	3½d.	Obscured Sheet, 15 oz.	3½d.
21 " thirds ...	4½d.	" " 21 oz.	4½d.
26 " fourths ...	4½d.	Fluted, 15 oz. 7d., 21 oz.	9½d.
26 " thirds ...	7½d.	Em'led, 15 oz. 4½d., 21 oz.	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
¼ Rolled plate	4½d.
⅜ Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	8d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	Per foot, s.	d.
Clear sheet—not exceeding 1 foot	1	0
Do. do. 2 feet	1	3
Do. over 2 feet	1	9
Polished plate—not exceeding 1 foot	1	6
Do. not exceeding 2 feet	3	0
Cathedral—not exceeding 1 foot	1	0
Do. larger sizes	1	6
Horticultural—for greenhouses, etc. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1	0
8/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide.....	2	6

VARNISHES, &c.

	Per Gallon.	£	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Opal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	6
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	0
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak	ditto	0	19	6
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	12	6
Best ditto	ditto	1	2	6
Best Japan Gold Size		0	12	0
Best Black Japan		0	10	0
Oak and Mahogany Stain (water)		0	12	0
Brunswick Black		0	7	0
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebene		0	9	0
Cutrase Black Enamel		0	7	0

British Standard Specification.

The following British standard specifications have just been issued: 428-1931, forge welded steel air receivers; 429-1931, riveted steel air receivers; 430-1931, solid drawn steel air receivers; 431-1931, manila ropes for general purposes; 432-1931, manila ropes for well drilling. Copies may be obtained from the Publications Department, British Standards Institution, 28, Victoria-street, London, S.W.1, price 2s. 2d. each, post free.

THE SCOTTISH BUILDER

NEW BUILDINGS

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Wednesday morning.*

Aberdeen.—FACTORY.—Intimation has been made that a new factory is to be erected forthwith in Aberdeen for the Scottish Agricultural Industries, Ltd., at the junction of Black's-lane with Commercial-quay. Contracts have been accepted by Messrs. Jenkins & Marr, of Aberdeen.

Dunbar.—HOUSING.—Dunbar Town Council has decided to proceed with the erection of over 20 three-roomed cottages in the immediate vicinity of Summerfield.

Denny.—HOUSING.—The T.C. have agreed to proceed with the erection of a block of six and a block of four four-apartment houses on a site at Kirkslap, Denny.

Dunfermline.—PAVILION.—Dunfermline Carnegie Trustees have approved of the site for their £60,000 winter gardens and music pavilion at the Bridge-street entrance to Pittencrieff Glen.

Dundee.—BUILDINGS.—Plans and sections of the following proposed new buildings, etc., have been lodged at the Office of the City Engineer:—Queen-street, Broughty Ferry—additions for Messrs. D. & W. Thomson (Mr. T. Lindsay Gray, architect, 2, India-buildings); South Brown-street, Broughty Ferry—garage, etc., for Mr. Thomas Gall.

Edinburgh.—EXTENSION.—The T.C. are inviting tenders for extensions at east and west wings, City-chambers, High-street. Mr. E. J. McRae, A.R.I.B.A., City Architect, has prepared the plans.

Glasgow.—WHARF.—The Streets, Sewers and Buildings Committee of the Corporation has agreed to recommend approval of the construction of a £50,000 wharf at Dalmuir sewage works.

North Berwick.—DRAINAGE.—The North Berwick T.C. decided to proceed with part of the original drainage scheme, involving an expenditure of about £4,000.

Scottish Housing.

Sir Archibald Sinclair, Secretary for Scotland, met representatives of Scottish local authorities in Edinburgh recently to discuss the housing situation. In reply to a speech emphasising the great urgency of the problem in Scotland, Sir Archibald Sinclair said the Government had deliberately excluded housing from the White Paper on economies. They had been losing ground in the provision of houses, and this year they had not built one more house than would meet the normal wastage. The present subsidy was generous, and he warned local authorities that when it became lower the statutory obligation to provide houses would remain. He therefore urged local authorities to redouble their efforts.

BUILDING TRADE WAGES IN SCOTLAND*

The following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons'‡ Bricklayers'† Plasterers'.†
Aberdeen	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Airdrie	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Alexandria	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Arbroath	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Ayrshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Bathgate	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2 1/3
Berwickshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Bo'ness	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½
Broughty Ferry	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Clackmannanshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Coatbridge	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Dumbartonshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dumfries	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Dumfriesshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Dundee	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dunfermline	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Duncon	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
East Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Edinburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Falkirk	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Forfarshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Fort William	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/2
Galashiels	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Glasgow	1/7	1/7	1/7	1/8½	1/7	1/7	1/7	1/2½
Greenock	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Hamilton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/2½
Hawick	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Helensburgh	1/7	1/7	1/7	1/8½	1/7	1/7	1/7	‡1/2½ †1/2½
Inverness	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	10d.–1/2
Inverurie	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/7	1/2
Kilmarnock	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kincardineshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Kinross-shire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kirkcaldy	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kirkwall	1/5	1/5	1/5	1/6	1/5	1/5	1/7	1/–
Lanarkshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Leith	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Midlothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Motherwell	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/3
Peebleshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Perth	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Perthshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Peterhead	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/7	1/2
Renfrewshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Rothesay	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Roxburghshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
St. Andrews	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Selkirkshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Stirling	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Stirlingshire, West	1/6	1/6	1/6	1/6	1/6	1/6	1/7	1/1
Stornoway	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
West Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Wishaw	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½ †1/2½

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 114.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	9	9
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	4
Do. to sides of excavation, including shoring	"	0	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	27	0
Add if in underpinning in short lengths	" "	6	0
Add if in floors 6 in. thick	" "	2	6
Add if in beams	" "	3	0
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	"	2	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	5	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	"	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork:—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	"	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks		4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	"	1	0

MASON.

York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	20	0
Chilmark stone fixed complete	" "	17	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	4	3	
Do. joists	" "	4	9	
Do. roofs, floors and partitions	" "	5	3	
Do. trusses	"	7	9	

		½"	1"	1¼"	2"
Deal rough close boarding	per sq.	33/6	38/-	43/-	70/-

Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	0	9
Centre for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

		½"	1"	1¼"	1½"
Deal edges shot	per sq.	—	42/6	50/-	57/6
Do. tongued and grooved	"	—	47/-	56/-	64/-
Do. matchings	"	44/-	49/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	"	3	9

DOORS

		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	"	2/4	2/6	2/9
Two-panel moulded both sides	"	2/6	2/9	2/11
Four-panel Do. Do.	"	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		1"	1¼"	1½"
Deal wrot moulded and rebated	per foot cube			14 0
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued		2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/6	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail average, 3 in. × 3 in.	" "	6	0
Add if ramped	" "	12	0
Add if wreathed	" "	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	3
Plain compound girders	"	18	0
Do. stanchions	"	20	9
In roofwork	"	20	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/4	1/7	1/9	2/-
Ogee Do. Do.	"	1/6	1/9	2/3	2/9
Rain-water pipes with ears	"	1/6	2/4	—	—
Extra for shoes and bends	each	3/4	4/11	—	—
Do. stopped ends	"	1/6	1/10	2/9	3/3
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	40	0
Do. Do. in flats	"	39	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run	0	5
Soldered seam	" "	1	3
Copper nailing	" "	0	3

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/1	1/7	1/10	3/-	3/6	—
Do. service	"	1/6	2/-	2/5	3/6	—	—
Do. soil	"	—	—	—	—	—	6/-
Bends in lead pipe	each	—	—	—	—	3/-	6/6
Soldered stop ends	"	1/-	1/4	1/9	2/6	3/2	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/6	3/-	3/6	4/4	5/6	7/9
Lead traps and cleaning screws	"	—	—	—	12/7	17/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/6	64/-	—	—

PLASTERER.

			s.	d.
Render, float and set in lime and hair	per yard sup.		2	3
Do. Do. Sirapite	" "		2	6
Do. Do. Keen's	" "		3	6
Add saw lathing	" "		1	7
Add metal lathing	"		2	6
(Not including hangers or runners, etc., for suspended ceilings.)				
Portland cement screed	" "		2	2
Do. plain face	" "		3	3
Mouldings in plaster	per 1 girth		0	1½
One-and-a-half granolithic pavings	per yard sup.		5	3

GLAZIER.

21-oz. sheet plain	per foot sup.	0	7½
26-oz. Do.	" "	0	10
Obscured sheet	" "	1	1
⅛-in. rolled plate	" "	0	9
¼-in. rough rolled or cast plate	" "	0	10
¼-in. wired cast plate	" "	1	3

PAINTER.

Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of £ ½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TRADE NEWS

A Partnership.

It is announced that Messrs. Farquharson Bros. and Co., timber merchants, Eldon-street-house, South-place, E.C.2, have taken Mr. G. P. M. Davis into partnership in place of Mr. A. P. Farquharson.

Office Furnishing.

We illustrate below a photograph of the offices of the General Steam Navigation Company's building, illustrated on page 89, for which Messrs. Libraco, Ltd., 62, Cannon-street, E.C.4, supplied the specially designed desks and fittings.

National Union of Manufacturers.

Mr. T. H. Redfern, a director of Redfern's Rubber Works, Ltd., of Hyde, Cheshire, has been elected to the Administrative Committee of the National Union of Manufacturers, London. Mr. Redfern has previously served for two years on the Executive Committee of the Manchester Branch of the Union.

A Cork Tile Contract.

Cork Insulation, Co., Ltd., inform us that their "Eldorado" cork tiles have been selected, in face of world competition, for the flooring throughout of the new Parliament and Senate House, Athens, Greece, an order having been placed with the company for approximately 6,000 square yards. Their address is Beefex House, 14, West Smithfield, E.C.1.

Reinforcement for Roads.

"Twisteel" Reinforcement, Ltd., manufacturers of "Twisteel" mesh and "Corro" self-centring reinforcements, have issued another of their useful linen-backed folders dealing with "Twisteel" road reinforcement. Data valuable to the road engineer, in the form of tables for areas, weights, etc., are contained. The folder is issued from 173, Kingston-road, New Malden, Surrey.

Vacuum Cleaning.

Another well-produced brochure, this time dealing with vacuum cleaning, has made an appearance from the Sturtevant Engineering Co., Ltd., 147, Queen Victoria-street, E.C.4. The value of this form of cleaning for varying types of building is pointed out, a chapter being given to each, and a large number of illustrations of buildings in which Sturtevant systems have been installed add to the usefulness of the publication.

Boilers and Radiators in Coloured Enamel.

A brochure illustrating the "Ideal Cookanheat" which the National Radiator Co., Ltd., Hull, Yorks, have just brought out in coloured enamel finishes, has reached us. The front panel and doors have been redesigned with a "basket work" surface, which lends itself more readily to a pleasing effect than the previous plain surface when vitreous enamelled. Also received are revised particulars of the "Ideal Classic" boilers, showing these in the enamel finishes; and a corresponding pamphlet relating to the "Ideal Domestic" boilers, showing approximately the coloured enamel finishes. Copies of these are sent upon application.

New Artesian Well at Virginia Water.

It is interesting to record that a second attempt has just been made to obtain a supply of water by means of an artesian well at the Holloway Sanatorium. This time the work of drilling the well was entrusted to Messrs. LeGrand, Sutcliff and Gell, and we believe that the result has been a highly successful one. It was necessary to drill to a depth of not less than 1,416 ft. in order to strike the water-bearing stratum, in this case, the Lower Greensand formation. An excellent overflowing supply of over 20,000 gallons per hour was obtained, the flow being controlled by means of valves fixed at the top of the borehole, the pressure of the water being 25 lb. to the sq. in. This borehole is lined from top to bottom with 7½-in. steel tubing, so arranged that the water can flow up the borehole, but the sand is kept back. Analysis of the water proved it to be of excellent quality and suitable for all domestic purposes. The Holloway Sanatorium authorities are, naturally, very pleased at having at last obtained their object, operations in this direction having started some six years ago.

Arts and Crafts.

Messrs. H. H. Martyn and Co., Ltd., of Sunningend Works, Cheltenham, have issued a brochure to draw the architect's attention to the efforts which they have made in recent years to meet as fully as possible the difficulties with which architects have to contend in maintaining the character of their designs throughout the various materials employed. They have reorganised their works and studios, thereby adding greatly to the efficiency of the services they are able to offer, which comprise: Wood-carving, joinery, furniture, modelling, fibrous plaster, stone-carving, sculpture, wrought metal-work, cast metal-work, and marble-carving, with large foundry and metal shops. It has become more and more evident, they state, that during the execution of the important works entrusted to them in recent years, the organisation of the associated crafts under one roof renders great assistance to the architect. It ensures a uniform character throughout the work, but Messrs. Martyn desire to emphasise the fact that the whole of the services which they give are only done through the architectural profession, and in no case is work carried out except through the architect, with a strict interpretation of his designs. A copy of this brochure can be obtained by architects upon request.

The Offices of the General Steam Navigation Company.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.
¶ Denotes *accepted by H.M. Office of Works and H.M. War Office*.

Aylesbury.—20 houses on the Southcourt estate, for the T.C. Mr. W. H. Taylor, Borough Engineer and Surveyor:—

Alfred Noble, Princes Risborough	£8,562 0
Heels & Sugar, Ltd., Luton	7,500 0
F. B. & F. Ellis, Stoke-Mandeville	7,404 10
W. J. Thresher, Aylesbury	6,800 0
H. Fidler & Sons, Luton	6,700 0
Webster & Cannon, Aylesbury	6,188 0
*Fleet & Roberts, Aylesbury	5,760 0

Barrow-in-Furness.—Extensions to Buccleuch-street dairy, for the Co-operative Society, Ltd., Rossall House, Abbey-road. Mr. J. Atkinson, architect, 11, Market-street, Dalton-in-Furness:—

*J. Strickland, Barrow-in-Furness.

Basingstoke.—Houses and garages in Bounty-road:—

*H J. Goodall & Sons, Queen's-road, Basingstoke.

Bath.—Repairs to 119, Walcot-street, for the T.C.:—

*Morris & Broad, Ltd. £211 19 10

Bedford.—Extensions to the premises of the Utility Service Laundry in Willows-road:—

*C. Burley, Stagsden-road, Bedford.

Belper.—Sewers and sewage disposal works, for the R.D.C. Messrs. Charles J. Lomax & Sons, engineers, 37, Cross-street, Manchester:—

*Bowmer & Kirkland, Heage, Derby £16,344

Bournemouth.—Installation of heating apparatus at the Hill View-rd. Council school, for the T.C.:—

*G. N. Haden & Sons, Ltd. £1,253 5

Cannock.—3,130 lin. yds. of sewers varying from 21 to 39 in. in dia., manholes, together with screening chambers, detritus tanks, sedimentation tanks, dosing chambers, bacteria beds, humus tanks, storm water tanks, sludge lagoons, engine houses, pump wells and incidental works, for the U.D.C. Mr. Robert Blanchard, engineer and surveyor:—

*M. A. Boswell, School-street, Wolverhampton.

Carlton.—Pavilion on the Burton-road recreation ground, for the U.D.C. Mr. J. A. West, A.R.I.B.A., surveyor, Manor-road:—

*Harper & Green, Ltd., Gedling-road, Carlton £1,327

Chaddesden.—Council school for 300 children, for the Derbyshire E.C. Mr. G. H. Widdows, F.R.I.B.A., County Architect, County Offices, St. Mary's Gate, Derby:—

*H. Cox, Heanor, Derbys.

Chelmsford.—Four houses in Corporation-road, Boarded Barns estate, for the T.C.:—

F. J. & A. A. Lowe, Writtle	£2,300 0
H. L. Bird, Ilford	2,095 0
Greenaway & Son, London	2,029 0
D. Holmes, Chelmsford	2,000 0
W. & A. Pudney, Ingatestone	1,945 0
R. W. Chandler, Widford	1,941 0
E. C. Galpine & Sons, Hounslow	1,880 17
S. E. Moss & Sons, Chelmsford	1,850 0
Chas. Smith & Sons, Chelmsford	1,798 10
*J. C. Pryke & Son, Chelmsford	1,798 0

Chesterfield.—For (*a*) 12 houses at Tupton; (*b*) 26 houses at Killamarsh, for the R.D.C. Messrs. Houfton & Kington, architects, Market-place:—

(*a*) *Clay Cross Co., Ltd., Clay Cross, near Chesterfield	£4,140
(*b*) *E. A. Tomlinson, Beighton, near Sheffield	£9,002

Clarkston.—Garage at Staymanhill-road:—

*J. Wright, Stamperland, Clarkston.

Clown.—Alterations and improvements to sewage disposal works in parishes of Barlborough Clown, Creswell and Whitwell, for the R.D.C. Mr. J. T. Pears, engineer and surveyor:—

*F. E. Greenwood, Castleton £10,808

Coatham.—Extensions to the Roman Catholic day school. Messrs. Kitching & Co., architects, 21, Albert-road, Middlesbrough:—

*C. Hebditch, Loftus.

Congleton.—Three concrete reservoirs for Odd Rode and district water scheme, for the R.D.C. Mr. H. Lapworth, consulting engineer, 25, Victoria-street, Westminster, S.W.1:—

*Cooper Bros., Macclesfield.

Coventry.—Junior and infants' school to accommodate 450 in Moseley-avenue, for the T.C.:—

†Garlicks, Ltd., Coventry £15,950

Desborough.—Laying of 2,500 yds. of stoneware pipe sewers and construction of tanks, filters, sludge lagoons and other works, for the U.D.C. Messrs. Pick, Everard, Keay & Gimson, engineers, 6 Millstone-lane, Leicester:—

†T. Bugbird & Son, Ltd., Spalding.

Devizes.—12 houses at Potterne, for the R.D.C.:—

*Wallis & Co., Wootton Bassett £4,200
(In lieu of tender withdrawn.)

Dun Laoghaire.—56 three-roomed houses at Kill-avenue, for the T.C.:—

*Joseph Rooney, Balbriggan £15,749

Edinburgh.—Billiards hall in Newhaven-road:—

*J. Pottinger & Sons, Parliament-square, Edinburgh.

Edinburgh.—Six bungalows at Carfrae-road and three bungalows at March-road:—

*Hepburn Bros., Craiglochart-road, Edinburgh.

Edinburgh.—Villa at Craiglochart-road. Messrs. Charles Tweedie & Sons, architects, 34, Frederick-street:—

*C. McKendrick, 2, Charlotte-square, Edinburgh.

Edinburgh.—Three houses in Anne O'Hill-avenue, Blackhall and Corbihill-avenue. Messrs. C. E. Tweedie & Sons, architects, 34, Frederick-street:—

*G. Robertson, Edinburgh.

Edinburgh.—Eight bungalows in Durham-terrace, Portobello:—

*Ford & Torrie, Edinburgh.

Ellesmere Port.—Construction of sewage disposal works, etc., for the U.D.C. Major H. S. Waters, consulting engineer, Temple-row, Birmingham:—

*A. Monk & Co., Ltd., Warrington.

Ellesmere Port.—Reconstruction of building formerly temporary church into an elementary school in Anfield-road, for the Rev. M. Curran, Church of Our Lady of the Sea:—

*Slater Bros. (Ellesmere Port), Ltd., Ellesmere Port.

Eton.—Rough casting the external walls of the Iver Council houses and other work, for the R.D.C.:—

*E. A. Collins £540

Ewell.—New roads, sewers and culvert in Briarwood-road, Ewell. Messrs. Atkinson & Marler, surveyors, 1, Park-avenue. Mr. E. Russell, P.A.S.I., quantity surveyor:—

W. M. Negus, Ltd.	£18,475
L. G. Speight, Ltd.	13,847
Perry Bros.	12,964
Roads & Public Works, Ltd.	12,117
Strange & Co. (Sevenoaks), Ltd.	11,260
G. S. Faulkner & Sons	11,211
Bridgwater Bros.	11,148
John Mowlem & Co., Ltd	11,131
Frank Harris Bros., Ltd.	11,083
Wallis & Sons, Ltd.	10,938
Anglo-Scottish Construction Co.	10,924
Stephen Kavanagh & Co.	10,499
Willment Bros.	10,319
W. & C. French, Ltd.	10,224
*J. Cronk & Sons, Ltd.	9,566

Flockton.—Installation of electric light in shops and cottages, for the Co-operative Society, Ltd.:—

*L. Bedford, Clayton West, near Huddersfield.

Giffnock.—Houses at new roads, Kilmarnock-road:—

*MacTaggart & Nickel, Ltd., 65, Bath-street, Glasgow.

Giffnock.—Two houses of five apartments at Hathaway-drive:—

*Thomas Stewart, Ltd., 24, Lochleven-drive, Langside, Glasgow.

Glasgow.—New shop in Victoria-road. Mr. John Fairweather, architect, Ormgate:—

*Menzies & Berbara, Westwood-road, Pollockshaw, Glasgow.

Glasgow.—Accepted by the Corporation:—

Balmore (Park House) School—

Ironmongery work—
*Fletcher, Parker & McAlpine, 77, Robertson-street £291 0 10

Painting and decorating work—
*W. McKerracher, 155, Eglinton-street 444 17 6

Gosport.—Runways for torpedo workshops, for H.M. Air Ministry:—

*H. Morris, Ltd., Loughborough.

Guildford.—Sewerage, for the T.C.:—

*D. T. Jackson, Barking £14,027 4 7

Harrow.—42 houses in Rossell-avenue and 14 houses in Clevesleys-avenue:—

*R. Lancaster & Sons, Ltd., 125, High-road, Wembley.

Heckmondwike.—Alterations to the domestic subjects' room at the Grammar School, for the Governors. Mr. H. C. Hebbes, clerk:—

*B. Ineson, Heckmondwike.

Kilmacolm.—Reconstruction of building, for the proprietor of the King's Café, Greenock:—

*J. Y. Keenie, Floors-street, Johnstone.

King's Lynn.—General structural alterations, additions and other works at St. James's House, for the Norfolk C.C. Mr. C. J. Norton, A.R.I.B.A. architect, Stracey-road, Norwich:—

*E. Tilson, South Wootton, King's Lynn.

Leeds.—For alterations and additions to "The Fishermen's Hut," West-street, for the Leeds and Wakefield Breweries, Ltd.:—

*L. Harpham.

Liverpool.—For alterations and additions to Margaret-street Baths. The Land Steward and Surveyor, Dale-street:—

‡Rimmer Bros., Dalton-street, Liverpool £3,125

Liverpool.—For erection of a retaining wall at the Holt Recreation Ground. The Land Steward and Surveyor, Dale-street:—

‡S. Hill & Co., Grassendale, Liverpool £188 10

Liverpool.—General repairs and decorations to 197, Upper Parliament-street, for the T.C.:—

‡T. H. Jones, Liverpool £112

Liverpool.—Interior cleaning and painting of certain rooms in museums, for the T.C.:—

‡W. Mooney & Sons, Ltd., Liverpool ... £115

Liverpool.—For alterations to provide accommodation for medical staff at Smithdown-road Hospital. The Land Steward and Surveyor, Dale-street:—

‡C. & G. L. Desoer, Ltd., Liverpool ... £867

¶London.—Contracts entered into by H.M.O.W. for the week ended December 31, 1931:—

Broadmoor Asylum—alterations—Norris & Co. (Builders), Ltd., Sunningdale.
Stone Post Office—erection—W. Kendrick & Sons, Ltd., Walsall.
Kettering Post Office—erection—C. Adams & Co., 42, Finedon-road, Wellingboro'.
Tooting Post Office—adaptations—G. H. Boyd & Son, Ltd., 37, Craven-terrace, W.2.

¶London.—The following works contracts have been placed by the War Office during the week ending December 31:—

Edinburgh, Redford Barracks—provision of annexes and heating installation in gymnasium—Pirie & Co., Ltd., Edinburgh.
Larkhill—erection of regimental institute—J. B. Edwards & Co. (Whyteleafe), Ltd., London.
Larkhill and Salisbury—periodical services—Fields, Ltd., Nottingham.
Shorncliffe—periodical services—A. Bagnall & Sons, Ltd., Shipley.
Woolwich, Military College of Science—steel-framed garage—A. & J. Main & Co., Ltd., Glasgow.

Lyminge.—138 houses on the Ringlestone Farm estate:—

*Cox Bros. £46,563

Mablethorpe and Sutton.—Construction of sewers and sewage disposal works, for the U.D.C. Messrs. Silcock & Simpson, engineers, 25, Victoria-street, Westminster, S.W.1:—

*W. Wright & Son, Ltd., Lincoln.
(Estimated cost £40,000.)

Manchester.—Installation of electric light at houses in Stoke-street, Clayton, for the T.C.:—

*R. H. Clampett & Co., Ltd., Manchester.

Manchester.—Installation of electric light at Wilbraham estate branch library, for the T.C.:—

*A. E. Sudlow & Co., Manchester.

Middleton.—Alterations, etc., to "Lever Arms" hotel, Mill-street, for the Bury Brewery Co., Ltd., George-street, Bury. Mr. H. Howarth, architect, Ivy-drive, Alkrington:—

*J. H. Heywood & Sons, Middleton.

ESTIMATING ON RIGHT LINES

Everyone whose business it is to quote for building work should master the principles upon which estimating is based. These principles are clearly explained and illustrated in.

'HOW TO ESTIMATE'

by J. T. REA,

an unique and invaluable work which is not excelled in thoroughness or in scope by any other book on the subject.

Fourth edition (now ready), 540 pages with 400 illustrations. Price 15s. net (by post 15s. 9d.). Containing thousands of prices and hundreds of examples of analysis, showing how a builder can make up rates for himself. In view of the difficulty of fixing standard prices under present conditions, the author has included a valuable series of Adaptation Tables and Percentages (Revised to February, 1930) *which show how rates may be adjusted to meet variations at any time.*

Before purchasing any other book on this vitally important subject, you are invited to inspect this—the standard work in use by over 30,000 builders

A Copy will be sent by return, and your Remittance refunded if the work does : : not satisfy your requirements : :

B. T. BATSFORD, LTD.
Publishers, 15 North Audley Street, W.1.

Nantwich.—Pumping station and workmen's cottages at Bearstone Water Works, for the R.D.C. Mr. H. Crabtree, engineer, 21, Pillory-street:—

*G. W. Platt, Shavington, Crewe £3,022

Newcastle-on-Tyne.—56 houses in flats. Messrs. Marshall & Tweedy, architects, Mervyn House, Pilgrim-street:—

*Storey, Reed & Alderson, Newcastle.

Newton-in-Makerfield.—Sewerage and sewage disposal works at Vulcan, for the U.D.C. Messrs. Elliott & Brown, engineers, Burton-buildings, Parliament-street, Nottingham:—

*E. & S. Street, Ltd., Farnworth, near Bolton £33,950

North Kesteven.—Two mass concrete reservoirs, also brick pumping station and other appurtenant works, laying of iron pipe water mains, etc., for the R.D.C. Messrs. Elliott & Brown, chartered civil engineers, Burton-buildings, Parliament-street, Nottingham:—

†Wallhead Bros., Ruskington.
(Estimated cost £66,000.)

Nuneaton.—(1) New butchery department and extensions, etc., to Hucks Hill Branch; (2) new offices and store-room at the dairy, Morevale-avenue; (3) extension to garage, Morevale-avenue, for the Co-operative Society. Mr. H. N. Jepson, A.R.I.B.A., architect, Queen's-buildings, Stratford-street, Nuneaton:—

(a) *W. A. Taberer & Co., Nuneaton	£1,386
(b) *W. A. Taberer & Co., Nuneaton	481
(c) *Hope & Aldridge, Nuneaton	2,084

Oakham.—Eight cottages at Cottesmore, for the R.D.C. Mr. Geo. Dolphin, architect, North-street, Uppingham, Rutland:—

*Harwood Bros., Corby, Grantham £2,388 16
(Subject to approval of M.H.)

Otley.—Additions to the factory in Leeds-road, for Messrs. G. Harrison & Sons (Bradford), Ltd., 43, Hall Ings, Bradford. Mr. Oswald Holmes, architect, 41, Boroughgate:—

*O'Brian & Richmond, Otley.

Padstow.—New breakwater at Padstow:—

*Carkeek & Sons, Redruth.

Peterborough.—Electricity sub-station in St. Paul's-road, for the T.C. Mr. W. H. A. Court, City Engineer and Surveyor:—

T. Measures	£269 0
Blood & Kendrick	265 0
W. Hawkins & Son	265 0
W. L. Seamer	264 0
Jellings' Builders	239 0
Fairchild & Maddocks	226 0
*R. S. Jellings, Ltd., Taverners-road, Peterborough	217 10

(All of Peterborough.)

Plymouth.—For (1) reconditioning Nos. 5 and 5, North-prospect; (2) carrying out minor repairs and external plastering, Lanyon Almshouses, Green-street, Plymouth; and (3) external painting of premises adjoining the Markets, Plymouth, for the T.C. Mr. J. Wibberley, City Engineer and Architect.

*(1) A. N. Coles (Contractors), Ltd., Queen Anne's Battery, Plymouth.
*(2) A. N. Coles (Contractors,) Ltd., Queen Anne's Battery, Plymouth.
*(3) J. H. Prowse, 3, Belle Vue-place, Coburg-street, Plymouth.

Preston.—Washing accommodation and latrines at the grammar school playing-fields, Fishwick Bottoms, for the C.B. Borough Engineer and Surveyor, Birley-street:—

*R. M. Barton, Four Lane Ends, Broughton, near Preston.

Preston.—Hot water heating installation at the motor 'bus garage, for the T.C.:—

*Dilworth & Carr £297 10

Redhill.—Demolition and reconstruction of "The Tower" public-house, for Messrs. Courage & Co. Mr. F. M. Kirby, F.R.I.B.A., architect:—

*Burnand & Pickett, Ltd., Mallington.

Renfrewshire.—Houses at Lentwhite, Bridge of Weir, for the County Housing Committee:—

*Woodrow & Sons, Janefield, Bridge of Weir.

Rugeley.—22 parlour type houses on the Hagley-road site, for the U.D.C. Mr. W. E. Rogers, Housing Architect:—

*C. Mason, Hednesford, Staffs.

Shardlow.—Construction of sewerage and sewage disposal works at Littleover, for the R.D.C. Messrs. Elliott & Brown, engineers, Burton-buildings, Parliament-street, Nottingham:—

*Somerfield & Sons, Nottingham ... £28,314

Shardlow.—Sewerage and sewage disposal works at Chaddesden, for the R.D.C. Messrs. Elliott & Brown, engineers, Burton-buildings, Parliament-street, Nottingham:—

*Fletcher & Co., Ltd., Mansfield.

Sheffield.—Senior school, assembly hall, etc., at Bem-lane, Wadsley, for the E.C. Mr. W. G. Davies, F.R.I.B.A., City Architect:—

*Works Department, Sheffield.

Watchet.—For erection of the West Regional broadcasting station at Washford Cross, near Watchet, for the B.B.C.:—

*W. T. Nicholls, Ltd., Gloucester.

South Molton.—Covered concrete reservoir, for the T.C. Mr. E. Turnbull, Borough Engineer and Surveyor:—

*Wm. Sanders & Son, 1, East-street, South Molton.

TURPIN'S
60 YEARS' REPUTATION FOR RELIABLE WORKMANSHIP.
COMPETITIVE PRICES—HIGHEST QUALITY —EFFICIENT SERVICE.
Please ask for Booklet "B"
Turpin's Parquet Flooring Co., 25, Notting Hill Gate, London, W.11. Phone: Park 1885 and 7585.
See also Page lxiii.
PARQUET, BLOCK & HARDWOOD FLOORING

HOSPITAL & SCHOOL STOVES
SOLE MAKERS OF
WRIGHT'S IMPROVED AND ALSO SHORLAND'S PATENT WARM AIR VENTILATING PATTERNS.
GEO. WRIGHT (LONDON) LTD
19 NEWMAN ST. OXFORD ST. LONDON, W.1.
WORKS: BURTON WEIR, ROTHERHAM

SEASONED HARDWOODS
of all descriptions for
BANK, OFFICE, SHOPFITTERS and BUILDING TRADES.

J. GLIKSTEN & SON, LTD.
CARPENTERS ROAD, STRATFORD, LONDON, E.15.
Telephone: Amherst 4444, (10 lines).
Telegrams: Gliksten, 'Phone London.

Stalybridge.—Transformer and switch-house at Matley, for the Stalybridge, Hyde, Mossley and Dukinfield Tramways and Electricity Board, Tame Valley, Dukinfield. Mr. J. Blackmore, engineer:—

*Wellerman Bros., Ltd., Hyde, Cheshire.

Stapleford.—Construction of sewerage works at Bramcote, near Stapleford, for the R.D.C. Messrs. Elliott & Brown, engineers, Burton-buildings, Parliament-street, Nottingham:—

*H. Sewell, Ilkeston, Derbys.

Swansea.—Engineering works, including intake and discharge tunnels 300 ft. deep for conveying condensing water from Queen's Dock, in connection with the Swansea super-electricity station scheme, for the C.B.:—

*Pauling & Co., Ltd., London £353,853

Tutbury.—Provision, laying and jointing of two miles of 6 in., 9 in. and 12 in. stoneware and cast-iron pipe sewers, construction of manholes and flushing chamber, also pump house at Barton Turn, for the R.D.C. Messrs. Willcox & Raikes, engineers, 33, Great Charles-street, Birmingham:—

*W. Willetts & Son, Ltd., Kingswinford £9,416

Uxbridge.—Sewerage contract No. 5 for Harefield, Hillingdon and Ickenham, for the U.D.C.:—

A. G. Collins & Ltd., Barry	£47,859 13 7
H. Coxhead & Co., Ltd., Slough	44,913 8 10
Patterson & Dickinson, London	40,324 15 0
Howard Farrow, Ltd., London	37,610 0 0
R. H. Powis, Ltd., Wembley ...	36,191 19 6
*G. Percy Trentham, Ltd., Long-lane, Hillingdon	33,278 8 0

Walsall.—Construction of Bescot new road bridge No. 1, for the T.C.:—

*E. C. & J. Keay (1926), Ltd. £468

Whitecraigs.—House and garage at Craignethan-road:—

*Thomas Stewart, Ltd., 24, Lochleven-drive, Langside, Glasgow.

Wishaw.—New Baptist Church and halls at Belhaven-terrace. Messrs. Miller & Black, architects, 132, West Regent-street, Glasgow:—

Excavation, brick and mason—*A. Simmons & Son, 21, Ivanhoe-gardens, Wishaw.
Carpentry, joinery and ironmongery—*D. & W. Munro & Co., Main-street, Wishaw.
Slater and Roughcasting—*W. Black, 10, Hill-street, Wishaw.
Plumber—*J. Lang & Sons, Kirk-street, Wishaw.
Glaziers—*Baillie & Telfer, 5, Garnet-street, Glasgow.
Terrazzo—*Toffolo, Jackson & Co., 110, West Regent-street, Glasgow.
Electric installation, etc.—*McKerron & Scott, 129, North-street, Glasgow.
Plaster—*W. Black, Hill-street, Wishaw.
Heating engineering, etc.—*Underhill & Co., 147, Centre-street, Glasgow.

J. J. ETRIDGE, J[r] Ltd.
SLATING AND TILING
SLATE MERCHANTS
CONTRACTORS
Inspections and Reports made on
OLD OR FAULTY ROOFS
in any part of the country.
Telephone: Bishopsgate 1944/5 or write
Bethnal Green Slate Works,
BETHNAL GREEN, LONDON.

BUY BRITISH
FLOORINGS
WOOD BLOCK PARQUET
SOLID T&G HARDWOOD
PANELLING
POINT PLEASANT LONDON S.W.18
Stevens & Adams Ltd.
PHONE PUTNEY 4701 · 2 · 3 · 4

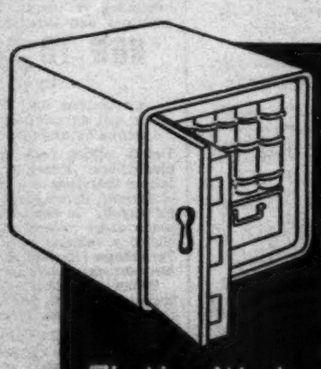
FITZPATRICK & SON
MASONS & PAVIORS
PAVING WORK OF EVERY DESCRIPTION
Largest stock of Second-Hand and Redressed (equal to new) Granite Setts in London, at Rock-bottom Prices.
Rectangular and Crazy York Paving. Rockery Stone. Granite Chippings and Tarmacadam.
Spur Stones to order.
Quadrant Blocks in stock.
454 OLD FORD ROAD, LONDON, E.3
'Phone—EAST 6338 7/8

Telegrams: "Frolic, Liverpool." 'Phone 228 Bank
E. B. BURGESS & CO.
6, CASTLE ST., LIVERPOOL.
WOOD BLOCK FLOORING AND PARQUETRY.

HANKIN & CO.
PAVING CONTRACTORS
Tarmac, Tar Paving, Crazy, York and Artificial Slab Paving, Concreting.
Tar Dressing (hot and cold).
Gravel, Sand, Rockery Stone, Ballast, Cement, Granite Chips, Shingle, etc.
Materials Supplied Only or Laid Complete. Estimates Submitted for all Methods of Road, Path and Sewer Construction.
Specialists in Tar-paved Tennis Courts and Playgrounds.
2½ and 4 Ton Petrol Rollers for Hire.
1 to 6 Ton Lorries for Hire.
Southwood Rd. New Eltham, S.E.9.
Telephone Eltham 1742.

X AIR COMPRESSORS WITH TOOLS X

AN "EMERGENCY" E UNIT.
X DEMOLITION & CONSTRUCTION CO., LTD., X
74 VICTORIA ST. S.W.1 VICTORIA 1031


BE SAFE!
SEND YOUR ENQUIRIES TO
W & M NEGUS LTD.
Building Contractors
Station Works · KING JAMES ST., SE1.
'phone: HOP 6081.